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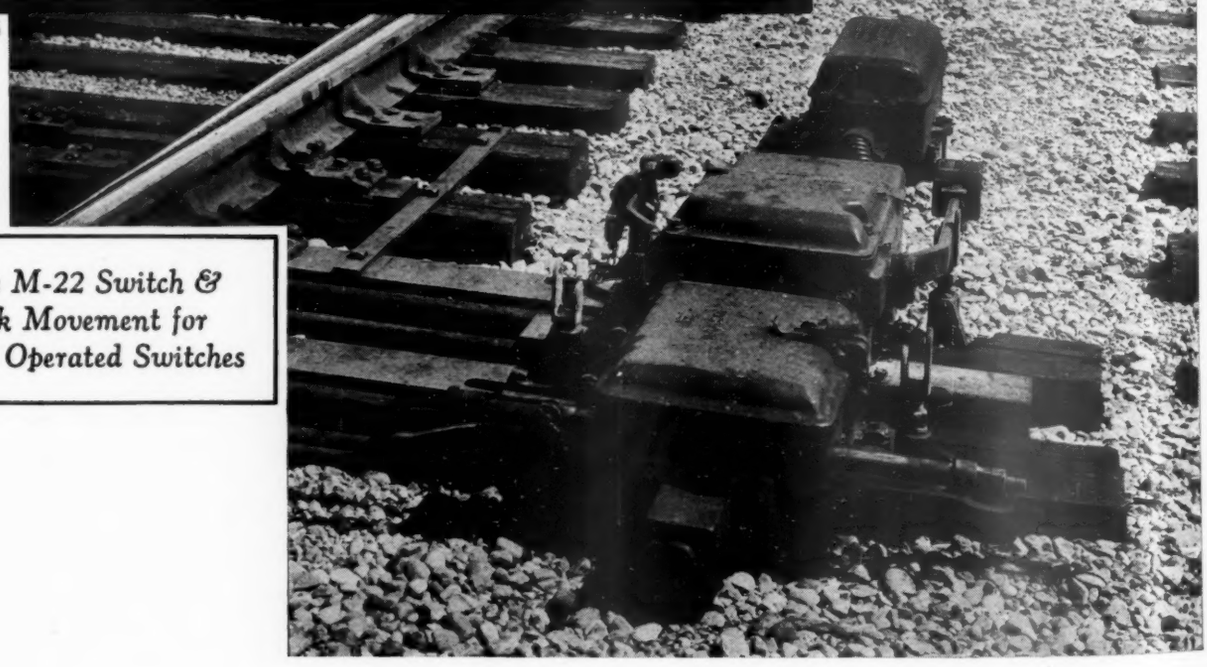

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RAILWAY AGE

Dr. Meyer on Transportation Problems Nos. 1 and 2

The address delivered by Dr. Balthasar H. Meyer at the annual dinner of the Western Railway Club last Monday evening is the most significant utterance regarding the country's present transportation problem that has come from any source.

It is significant because it came from Dr. Meyer as well as because of what he said. Dr. Meyer, Winthrop M. Daniels and Dr. Walter W. W. Splawn are the only economists who have ever been members of the Interstate Commerce Commission; and it requires a thorough knowledge of economics to grasp the fundamentals of the transportation or any other great economic problem. Dr. Meyer has as perfectly judicial a temperament as any man who ever held an important judicial or semi-judicial position. Finally, his 34 years' service on the Wisconsin Railroad Commission and the Interstate Commerce Commission is the longest any man has ever had in such capacities. He is therefore as well qualified as any man living to discuss the country's present transportation problem with economic intelligence, ability and impartiality.

An abstract of his address appears elsewhere in this issue. The gist of its most important parts is:

1. "Compared with the decisive factor of equality in competition" all other factors of the transportation problem are "distinctly secondary." "To find the correct answer (to this factor of equality in competition) is United States transportation problem No. 1. In a sense that is the whole transportation problem, because all the other elements * * * are largely determined by the terms of the permanent answer" to this one.

2. United States transportation problem No. 2 "is the relation of the private carriers to the common carriers * * * . The group of private carriers is the final arbiter as matters now stand, more powerful than any other single force operative in the industrial world of today. * * * It requires little imagination to foresee the time when this problem of the relation of all common carriers considered as a unit, but competing among themselves, to all the private agencies considered as a unit, will become United States transportation problem No. 1."

Railroad Problem No. 1—Labor Costs

Doubtless Dr. Meyer would agree that the principal part of the *transportation* problem is the *railroad* problem, because the railroads are in danger of becoming chronically bankrupt. That would inevitably mean government ownership; and government ownership would permanently prevent any solution of the *transportation* problem in the public interest.

There is, in our opinion, an even more important factor of the *railroad* problem than equality in competition. For many years a declining number of employees has been getting an increasing part of railroad gross earnings. The resulting erosion of net earnings must be stopped if the industry is to continue as a private enterprise. It will do it no good to get an increase of gross earnings by solving what Dr. Meyer called transportation problems Nos. 1 and 2 if adequate increases of net earnings are to be prevented by continuing advances in labor costs. And it is the plain purpose of railway labor leaders to take increases in gross earnings from the railways as fast as they get them. This is indicated by the recent address of George M. Harrison to his Brotherhood of Railway Clerks in which he urged "the immediate establishment of the basic six-hour day without reduction in compensation."

The report made by the Interstate Commerce Commission a few years ago regarding a six-hour day without reduction of compensation shows it would wipe out all present net earnings and leave a large operating deficit. Mr. Harrison's statement in effect gives notice that while railroad management can expect labor union co-operation in efforts to increase gross earnings, it must also expect labor union resistance to every effort to increase net earnings. It will, therefore, require a railroad leadership less timid in dealing with labor than during the last two years to solve *railroad* problem No. 1—that of preventing labor from taking most or all of any increase of gross earnings that may be secured.

Big Business and Transportation Problems Nos. 1 and 2

We agree with Dr. Meyer, however, that *transportation* problems Nos. 1 and 2 are equality in competition and the private carrier. These two problems are presented principally by the attitude and policies of certain parts of Big Business, and are indissolubly interwoven. They exist because these parts of Big Business either do not understand how the system of private enterprise must be operated if it is to be maintained, or are determined to continue exploiting the railroads and everybody else regardless of all ultimate consequences. Despite declarations of the National

Association of Manufacturers and the Chamber of Commerce of the United States for sound economic principles and policies, these special Big Business interests go right ahead violating every sound principle of private enterprise whenever and wherever they consider it to even their temporary advantage to do so—and then howl "bloody murder" whenever anybody else attacks private enterprise in any way that he is simple-minded enough to believe will benefit him.

Senator Harrison on Business and Government Expenditures

Men familiar with what has occurred in transportation during the last quarter of a century are in the best position to know this is true. But there are plenty of politicians who know it and are not backward in telling the public about it, to the injury of business. For example, Senator Pat Harrison of Mississippi, in his recent address at the annual meeting of the Chamber of Commerce of the United States, said that Chambers of Commerce "have played a greater part in forcing large congressional expenditures than any organization with which I am familiar." How can Big Business hope to induce the politicians and the people to become hostile to huge government expenditures, subsidies and socialistic policies in general, when certain parts of Big Business itself so rapaciously and so ruthlessly practice subsidy-rackets on the public? *Why should relief for the unemployed be reduced while a large part of Big Business insists on staying on "relief"?*

We have often discussed unfair competition in transportation—what Dr. Meyer called transportation problem No. 1. But there has been very much too little said regarding what he called transportation problem No. 2—that of the private carrier.

The Menace of the Private Carrier

The railroads are prohibited by the "commodities clause" of the Interstate Commerce Act from engaging in private transportation—that is, from transporting commodities that they own and selling them to the public. The purpose and effect are to confine them to the function of common carriers and thereby, like the provisions regarding unfair discriminations, prevent them from interfering with equality of competition between territories, communities and shippers. But while the law prohibits the railways from engaging in commercial business, it does not prohibit any other carrier from engaging in commercial business, or persons or companies engaged in commercial business from also engaging in transportation, and *thereby destroying the very equality in competition between territories, communities and shippers that it is the purpose of the commodities clause to help maintain.*

Hence, many companies other than railroads engaged in transportation are engaged also in commercial business; and many companies engaged in commercial business have also engaged, and others are engaging, in private transportation. A private carrier is one that transports goods owned by the owner of the carrier. Important examples are pipe lines that transport oil for the oil companies that own them. A big oil company that transports its own oil in its own pipe line has an obvious competitive advantage over every small oil producer that must ship by its competitor's pipe line or by rail. Numerous large companies own the barges on which their freight is transported on inland waterways. This gives them important advantages over competitors so located or so small that they must ship by rail—their advantages being government-subsidized water transportation and that of shipping in barge-load quantities instead of carloads.

Private Carriers Attack Both Railroads and Small Business

What public advantage is served by prohibiting the railroads from producing and selling coal, while large coal mine operators are allowed to own and operate their own barges? Such barges not only compete unfairly with the railroads, but also give their operators an unfair advantage over other mine operators whose geographical location or limited financial resources disable them from taking similar advantage of tax-supported waterways.

Most chain store companies own and operate large fleets of trucks used in distributing their goods to their retail stores. As private carriers they thus engage, largely at the expense of the taxpayers, in competing not only with the railways, but with small local merchants throughout the country who are unable to own fleets of trucks and therefore must use the common carrier service of the railroads. Large automobile companies engage in subsidized private transportation on the highways in competition with the railways by widely distributing their automobiles in their own trucks. Truck operators in all parts of the country go to centers of production of coal, fruits, vegetables and many other commodities, buy these commodities, transport them over the public's highways and retail them in local communities in competition with local merchants, who, in order to stay in business, must bear the expense of maintaining and operating coal yards and local stores and of having their freight shipped via the common carrier railroads.

Advantages—and Disadvantages—of Private Carriers

Private carriers have some great advantages over railroads and other common carriers. The pipe lines excepted, *all private carriers enjoy government subsidies.* Furthermore, the private carrier, being owned by the owner of the freight, can always wait for a full load or a backhaul. If the railroad could do this, it could haul freight much more economically; but, being a common carrier, it must accept and move any freight that

is offered whenever and wherever it is offered, regardless of how small a load it makes or of how much empty car mileage the railroad must run up in order to have enough cars whenever and wherever any shipper, large or small, may ask for them.

But, from the standpoint of most business and the public, the private carrier has some very great disadvantages. It can be used only by the owner of the freight that it transports; and therefore all producers and shippers who do not own private carriers must rely for their transportation upon common carriers, and especially, of course, upon the railroads. Now, obviously, the more freight is transported by private carriers the less there is left for common carriers. And the smaller becomes the volume of traffic of common carriers, the higher become their unit costs of operation and the rates they must charge. Consequently, the more private transportation develops *the lower becomes the cost of private transportation and the higher the costs and rates of common carriers.* Thus, the growth of private transportation cuts common carriers, especially the railroads, and *all business that must rely upon common carriers* with a two-edged competitive sword, constantly reducing the costs of the former and increasing the costs of the latter.

Small wonder, then, that Dr. Meyer, from his long study, observation and experience, declares that the group of private carriers is "more powerful than any other single force operative in the industrial world of today." It may soon become not only the country's transportation problem No. 1, but its economic problem No. 1. And small wonder that certain Big Business interests that dominate the Chamber of Commerce of the United States prevented it from making any declaration for equality of opportunity in transportation!

An Important Job for the O'Mahoney Committee on Monopoly

If the public welfare, and not the profits of business interests using government policies to exploit the railroads and all other business, is to be given paramount consideration, then, obviously, Dr. Meyer's transportation problems Nos. 1 and 2 must be solved by radical changes in these government policies. First, these policies must be changed to equalize regulation and subsidization of common carriers—preferably, of course, by abolishing subsidies. Second, there must be federal, and probably state, legislation *requiring divorcement of all transportation from commercial business,* as railroad transportation was divorced from it twenty-three years ago. The public interest imperatively forbids continuance of present government policies discriminating, not only in favor of all other carriers against the railroads, but also against businesses dependent upon common carrier service and in favor of certain Big Business interests that combine private transportation and commercial business.

Senator O'Mahoney's Committee on Monopoly could render no greater public service than that of immediately beginning a comprehensive and thorough investigation of the tendency of present government and business policies regarding transportation. For there are no other present policies of both government and business tending so strongly to enable certain branches of business to drive their competitors, large and small, out of business, and thereby establish monopolies.

More Attractive Bridge Structures

In past years railway engineers commonly gave little attention to the appearance of their bridges. The stark, straight lines of the average steel structure were accepted as a necessary function of structural design, as was also the inevitable drab protective coating, which, not infrequently, was out of harmony with its surroundings. Even with concrete structures the lines employed were frequently anything but attractive, and ornamentation, as it is thought of today, was entirely missing; but again, these conditions were accepted as an evidence of sturdy design, and there was little demand for anything different. However, this situation has largely changed in recent years to the point where the public is demanding that appearance be given increased consideration.

Stimulated by such demands, the widely accepted change in architectural treatment of structures in general toward "modernistic" or "streamlined" design is reflected in corresponding changes in the architectural features of bridge design until today, through the use of graceful lines, light color protective coatings, and paneled or otherwise specially treated concrete and steelwork, many bridge structures are not only in keeping with their surroundings, but actually far outstrip them in appearance. Such structures can be seen in almost any part of the country, although they are most common within the larger cities or over the more heavily traveled highways. Many of them have been described and illustrated in the pages of this publication, of which the most recent was the steel and concrete grade separation structure of the Wabash over Broadway, Toledo, Ohio, in the issue of April 22.

There are several reasons why earlier railway bridges were not the subject of special architectural treatment. There was no demand for it, and most of the bridges of earlier years, offensive as they may appear to many today, were in keeping with the accepted lines of the times. As regards grade separation structures in particular, even if there had been a demand for special architectural treatment, there was little incentive for the railways to suggest features of added cost, no matter how small they might be, when they were already being called upon to pay a part of the cost of such structures that was far out of line with the benefits to be derived.

With the enactment or modification of laws in several states to bring about a more equitable distribution

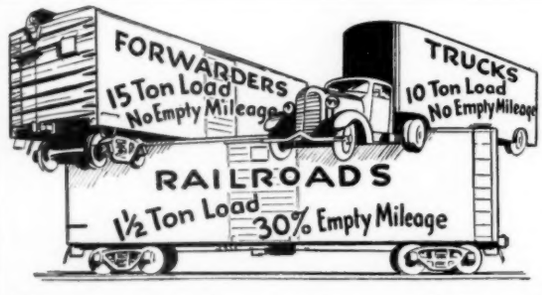
of the costs of grade separation projects, and, more particularly, the active participation of the federal government in financing the major part of the costs of many projects under the Emergency Relief Appropriation Act of 1935 and subsequent legislation, considerable impetus has been given to grade crossing separation work, with largely increased attention to appearance, complying with the increased demands of the public in this regard. This is as it might well be, for the public is paying the major part of the costs for this enlarged program, carried out mainly in its interest, and bearing the entire increase in costs for embellishments or other special architectural features.

No railway man will oppose improved appearance, whether it comes through improved lines, ornamented steelwork, embellished concrete work, ornamental ballustrades, decorative lighting fixtures, or special landscaping, if the public, which is the sole beneficiary of these features, is willing to pay the bill. With the greater demand for architectural treatment and an increased willingness on the parf of the public to pay its true proportionate share, more and more of the important grade separation structures being built are reflecting improved appearance, and there is no reason why this trend should not continue, with the full cooperation of the railways.

What Will the Traffic Bear?— 15

Railway managements generally agree that present assembling, handling and pricing of merchandise traffic is outmoded and wasteful, causing undue solicitation, handling and accounting costs. They are earnestly trying to correct this condition, but conflicting interests, prejudice and the force of custom and tradition are obstacles hard to surmount.

Some roads are co-operating with unregulated freight forwarders who use both railroads and trucks. Some of these forwarders make preferential rates which take the "cream" of the traffic away from the very railroad which fosters their service—as well as from other railroads and from the trucks. Other roads are operating trucks in competition with practically every mile of their own rails and with other truck lines which parallel their rail lines. Still others are acquiring a working interest in truck lines which compete with their own and other railroads, and which extend beyond their own railheads, invading the territories of other rail carriers. Then, all the roads have a working interest in the Railway Express Agency which largely duplicates all of these other facilities.



Economy of Forwarder and Truck Operations Is Not Intrinsic-But Arises from the Kindness of the Railroads in Relieving Them of Poor Traffic and Empty Mileage

Freight forwarders are picking the choicest traffic, loading 15 tons per car. Trucks are also picking choice traffic, cutting under rail carload rates to obtain backhauls—thereby obtaining almost perfect loadings in both directions. Both trucks and forwarders are steadily increasing their traffic and profits.

The forwarders and trucks are able to make these costly raids upon railroad traffic only because of the railroads' outmoded pricing structure and their wasteful duplication of service. The result of these raids is that the railroads are left with only the "skim milk" traffic which loads light (less than two tons per car) and produces the least revenue. **Since the trucks and forwarders move loaded in both directions, the railroads are left with the expense of all the empty mileage resulting from unbalanced traffic.**

As an example of the enormous surplus of facilities which reflects the waste fostered by present practices—between two typical metropolitan centers 8 trunk line railroads, three large and many of the lesser forwarding agencies, more than 40 truck lines and the Express Agency are competing for the available traffic. Or the shipper may send his goods by water, since the Inland Waterways Corporation and other water carriers also operate between these points.

If the trucks and the forwarders were offering a service economically superior to that of the railroads—then the present situation, bad as it is, would have to be accepted. But such is not the case. The railroads can provide the great bulk of this service at costs lower than their competitors'. If there were sound co-ordination and efficient operation of railroad-owned and railroad-controlled facilities for handling merchandise traffic—and if railroad rates were made to reflect the true economy of such co-ordinated service—then the railroads would recapture the bulk of this business. Handled under such conditions, this traffic would earn a profit, instead of being merely a costly form of philanthropy, as it is at present.

B. H. Meyer Speaks His Mind*

The government has got to face the problem of equalizing competition and it has got to grapple with the growth of private carriers, or transport problems won't be solved—Thus veteran Commissioner† warns in memorable address

"ALL the railroads in the country might be reorganized, consolidations might be accelerated, co-ordinations might be hastened, pooling might be greatly extended, bankers who are thought to exercise undesirable influence might withdraw, holding companies might be eliminated from the railroad field, financial irregularities might be suppressed, railroad executives might forego their salaries, the fourth section might be repealed, every train might be streamlined, and a host of other things done, yet all of these things put together alone would not put the railroads in a position to maintain their properties and earn a profit. They are distinctly secondary considerations, many are even minor or negligible, compared with the decisive factor of equality in competition."

This was the keynote of an address made before the Western Railway Club at its annual dinner on Monday evening, May 22, by the Honorable Balthasar H. Meyer, who recently retired after more than twenty-eight years of service as a member of the Interstate Commerce Commission—the longest tenure of office ever held by any Commissioner. Dr. Meyer was first appointed to the Interstate Commerce Commission by President Taft in 1911 and, with his previous experience as a member of the Wisconsin Railroad Commission, starting in 1905, ranks as the dean of the transportation regulatory authorities of America. His address before the Western Railway Club was his first important utterance since his retirement from the Commission.

What Public Burden Should Each Transport Agency Bear?

"The railroads have problems peculiar to themselves," said Dr. Meyer, "the highways and waterways have their individual problems; but the greatest problem which concerns them all and which the country must solve is that of the relation in basic terms of the public burdens which the railroads, the highways, the waterways, the airways, and the pipelines shall, respectively, bear. One single, simple statement of fact opens the door to that entire vast field of contemporary transportation controversy. That statement is that the railroads now carry little more than one-half of the transportable freight of the country, and a much smaller proportion of the passengers. They used to carry nearly all.

"Railroads, highways, waterways, pipelines and airways have been created for use in the interest of transportation, for the entire population. They will continue to be used if the services which each provides appeal to buyers of transportation and they can survive the fierce competitive struggle which is raging with steadily increasing intensity. **The law of the survival of the fittest should be permitted to operate, provided the struggle takes place on a basis of substantial equality. Does such competitive equality exist?** That answer is the greatest single factor in the solution of the railroad problem.

Government Cannot Sidestep This Issue

"Without that answer there can be no solution. There cannot even be established a fair truce among the rivals to cover the period necessary to find the answer. The answer involves the federal government, the state governments and local governments. Action on the part of each of these is required. To find the correct answer is United States transportation problem No. 1. In a sense that is the whole transportation problem because all the other elements such as facilities, service, credit, revenues, profits, are largely determined by the terms of the permanent answer. After that answer has been found the succeeding steps should be perfectly clear, if not also easy.

"Before I proceed farther I should indicate what in my opinion is or will be United States transportation problem No. 2. It is the relation of the private carriers to the common carriers. By that I mean the relation of the private motor vehicle, the private ship or barge, the private airplane, to the common carrier motor, vessel or plane. The private agencies of transportation are today the most potent basic force in determining the extent to which common carriers of all kinds shall be permitted to carry goods requiring transportation. The relation of all common carriers to one another is one of the highest importance and vital in its consequences. But after that problem has been solved, there still remains the even greater problem of the relation of all common carrier agencies as a group to all private transportation agencies as a group.

Private Carriers vs. Common Carriers

"The group of private carriers is the final arbiter as matters now stand, more powerful than any other single force operative in the industrial world of today. The ultimate conflict will therefore be one, not among the

* An abstract from an address presented before annual dinner of the Western Railway Club at the Hotel Sherman, Chicago, on May 22.

† Dr. Meyer retired on May 1, terminating a service that began on January 1, 1911, and establishing a new record for length of service as a member of the Interstate Commerce Commission.

five contemporary individual common carrier agencies, but a conflict between these five together as one group against the corresponding five private agencies as a group. It requires little imagination to foresee the time when this problem of the relation of all common carrier agencies considered as a unit, but competing among themselves, to all the private agencies considered as a unit, will become United States transportation problem No. 1. For the present I am willing to let it stand as No. 2.

"The problems which I have outlined attain their present importance because of the relative lack of tonnage requiring transportation. There simply is not enough freight to reach around. Another way of expressing it is to say that we have an excess of transportation facilities. A further increase in transportation facilities without a corresponding increase in the volume of freight can have only one ending. The unprecedented extension of fine highways, simultaneously with a marvelous development of motor vehicles, has provided a vast quantity of new transportation, not only where previously existing transportation was inadequate and where extension was warranted, but also where it was adequate or even excessive.

Transport Plant Extended as Need for It Wanes

"It has often been repeated that the railroads suffer from want of business. No one denies that. The trucks and ships say the same and no one will deny that. The railroads differ in their situation from trucks and ships in that their business was taken away from them almost immediately after they had extended their facilities to do that very business. Few men in business today cannot remember the relatively recent agitation for greater railroad facilities. The clamor was persistent and loud. The railroads responded by improving every part of their plant. The shippers of the country acknowledged with much appreciation the improved service which these facilities made possible.

"When the railroads were all equipped to do the biggest business in their history, the great crash came. They did not foresee this. No citizen in the country foresaw what was coming. The effect of this crash in reduced tonnage was bad enough, but that was only what everybody else had to take. Then came the swift extension of magnificent highways and the concurrent creation of motor wonders, and the railroads fell, many mortally wounded. Other rivals added to the distress.

"I have seen innumerable letters, paragraphs and articles to the effect that the misdeeds of railroad managers have brought these misfortunes down on their heads. Unfortunately, there have been misdeeds, there have been incompetent managers; but railroad men as a class are exactly like all other people. **If for twenty years past every railroad man had been a superman, the present condition of the railroads, taken as a whole, would not be essentially different from what it is.** Even a super railroad man cannot make a profit on business which has been taken away from him.

Bankruptcy Worshipped as a Savior

"One of the strangest things in my experience is the glorification of bankruptcy which has characterized a considerable part of the more recent discussions of the financial conditions of our railroads. There appear to be those who seem to think that railroad prosperity could be most quickly restored by throwing as many railroads as possible into bankruptcy and then pulling them out of it with all the attendant bitterness and losses. Through the strongest loud speaker which can be found, I would like to say to the apostles of this strange doctrine that in my opinion every bankruptcy which could have been avoided, but was not avoided, is dishonest and dishonorable; that every bankruptcy which cannot be avoided is a misfortune. The choice lies between dishonor and misfortune. Some are promoting both. Prosperity cannot be found in heaping misfortune on the heads of people most entirely innocent, nor railroad and national prosperity restored by means of reorganizations. In my opinion **there are only two things which will basically help the railroads. One is an increase in traffic and earnings; the other, a decrease in expenses.**

"Unless basic conditions can be changed, no amount of reorganization will in the future protect a large proportion of the existing railroad mileage of the country from being driven into a situation where that mileage will support the sale of neither bonds nor stock, which in turn will compel it to live on current earnings exclusively; and when the earnings fall below expenses, the wheels stop turning and the junk dealer becomes the only successful doctor.

Railroads Now Carry Half of Nation's Traffic—They Once Carried It All

"The railroads have been losing steadily in their position. From carrying nearly all the freight of the country, they have fallen to nearly one-half. That fact alone would seem to indicate that the competitive basis on which they have been operating has not been fair to them unless as agencies of transportation they have become so far inferior to the highway that they have been put out of the race. As a layman I cannot see why as a matter of physical performance the railroads should not be able to hold their own and regain some lost ground if they are permitted to operate on a basis of equality with their competitors. I cannot believe that that equality exists today.

"Equality is the keystone which holds the arch. I believe equality would enable the railroads to secure a larger proportion of the transportable freight than they are now getting. **Complete economic recovery for the country as a whole would not profit the railroads unless they could get their fair share of the increased tonnage which recovery is expected to produce.**

"Those of you who are interested in highways, waterways, pipeways and airways will naturally ask the same consideration for the agencies which you represent, and they are entitled to it. Each is entitled to fair competition on a fair basis with every other. So far as I am concerned you shall have it and nothing less. But you are not entitled to more."

Trying to Repeat the Hoch-Smith Mistake

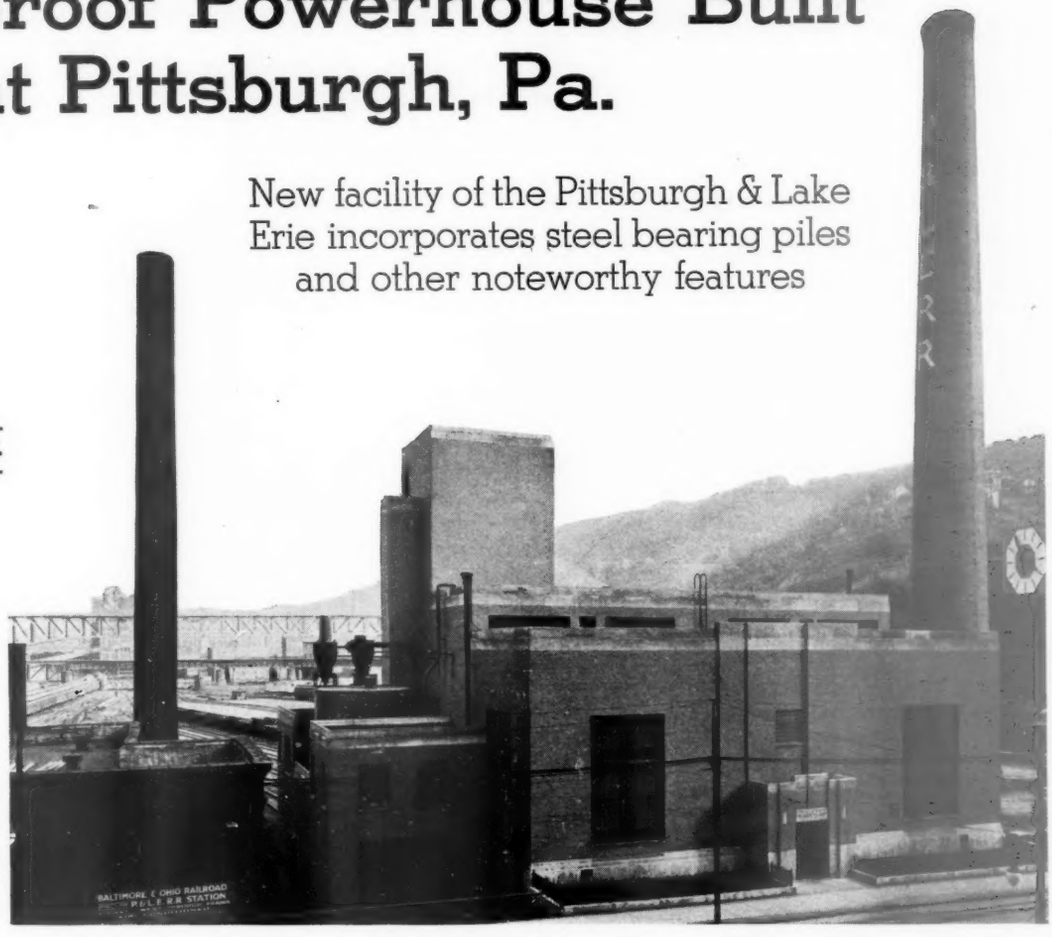
Referring to agitation for legislation to change interterritorial rates, Dr. Meyer said in part:

"Not long after the enactment of the Hoch-Smith resolution I stated publicly that a hundred Solomons could not perform the work required by its terms in a hundred years. The resolution was too inclusive, too huge in the prescribed chores, and too ponderous for any body of human beings to administer in a practical way. Notwithstanding these unfavorable experiences, there are now pending before Congress a number of bills which propose to repeat Hoch-Smith features, and which, if enacted into law, will result in subjecting the shippers of the country, the railroads (possibly also the trucks) and the Commission to the same serious burdens

(*Continued on page 903*)

Floodproof Powerhouse Built at Pittsburgh, Pa.

New facility of the Pittsburgh & Lake Erie incorporates steel bearing piles and other noteworthy features



The Powerhouse, as it Appears From the P. & L. E. Passenger Terminal Building Across the Street

INCORPORATING the latest developments in power plant equipment as well as a number of noteworthy features in the design and construction of the building itself, a new powerhouse has been constructed at Pittsburgh, Pa., by the Pittsburgh & Lake Erie at a cost of $650,000. Among the more interesting aspects of the new powerhouse may be mentioned the measures that were taken to protect the structure against a 50-ft. flood stage from the adjacent Monongahela river, or to a height of 13 ft. above the ground floor, the use of H-section bearing piles up to 70 ft. in length, these being tested for uplift as well as for bearing power, and the use of glass block window panels in the exterior walls of the structure at points below the level to which the walls are waterproofed and otherwise designed to resist the pressure of flood waters. A new pumphouse was also constructed on the bank of the Monongahela river as a part of the power plant project.

The new powerhouse is designed to furnish electricity, heat, compressed air and steam for the railroad's terminal facilities at this point, including the terminal office building, which houses the passenger station, the annex office building, the freight house, a large warehouse, the train sheds, the coach yard and other yards and facilities. It was constructed to replace a facility that had been in service since 1901, and which had not only become obsolete because of its outmoded equipment but had become inadequate because of the growth in the railroad's facilities at this point. Moreover, the flooding of the old powerhouse by high water in the Monongahela river had, on a number of occasions, resulted in interruptions in the power service, and the decision to build the new facility was motivated partly by a desire to preclude future difficulties of this character.

Location of Power Plant

The power plant, in common with the main-line tracks and other facilities of the P. & L. E. at Pittsburgh, is located near the west bank of the Monongahela river, the new structure being situated directly west of the old powerhouse and south of Smithfield street which, at this point, is carried on an approach to a vehicular bridge across the river and consequently is elevated somewhat above the ground level. Directly north of Smithfield street and opposite the old powerhouse is the terminal office building and passenger station.

Exclusive of a coal-car shed, 25 ft. wide and 73 ft. long, on the east side of the structure, the main portion of the powerhouse is approximately 90 ft. square in plan. Its facade is set back 12 ft. from the south line of Smithfield street and the structure is located at a sufficient distance from the old powerhouse to permit its construction without interference with the functions of the latter. Plans for the new powerhouse were formulated with the objective in view of placing all the more important units of equipment at a level above high-water stages up to 50 ft. This requirement established the main-floor level several feet above the grade of Smithfield street and about 17 ft. above the natural ground surface.

On the main-floor are located the steam boilers, generators, compressors, and water pumps for various purposes. Over the coal-car shed and at a level slightly

above the main floor are located the engineer's office, locker rooms and toilet facilities for employees, and a machine shop. Below the main-floor level the space is occupied largely by shops for the railroad's local carpenters, electricians and plumbers. It also houses a chemical laboratory and toilets and shower rooms for employees.

Type of Construction

To render the space under the main floor immune to effects of high water it was necessary to provide waterproof walls and floor slabs capable of resisting the attendant lateral and uplifting forces, and to accomplish this end the floor slabs and walls, up to the level of the main floor, were constructed of reinforced concrete, waterproofed on the interior up to a flood stage of 50 ft. Above the main-floor level the power plant is of brick and steel construction, with wide-flange beams used for the wall and intermediate columns and the roof beams and purlins. It is faced with red brick on the exterior, while Indiana limestone is used for trim in the window sills and the parapet walls.

On the interior, where the partitions are likewise of brick, the walls are lined with buff brick, except in the wash rooms, locker rooms and offices where the lining is of salt-glazed tile, the same material being used for a 12-ft. wainscot in the engine room. The floors and roof slab are of reinforced concrete and the roof slab is covered with built-up roofing with slag surface. Window openings above the main-floor level are of ample size, the largest being 16 ft. by 19 ft. in dimensions, and are equipped with steel sash.

The power plant smoke-stack, which is situated immediately west of the main building, is of radial brick construction. It is 175 ft. high above the boiler-room floor, and has an inside diameter of 9 ft. at the top and 14 ft. 7 in. at the bottom. The chimney rests on an octagonal reinforced concrete pedestal, 15 ft. high, which in turn is supported on a reinforced concrete cap 6 ft. thick that encases the tops of a cluster of H-section bearing piles.

Why Steel Piles Were Used

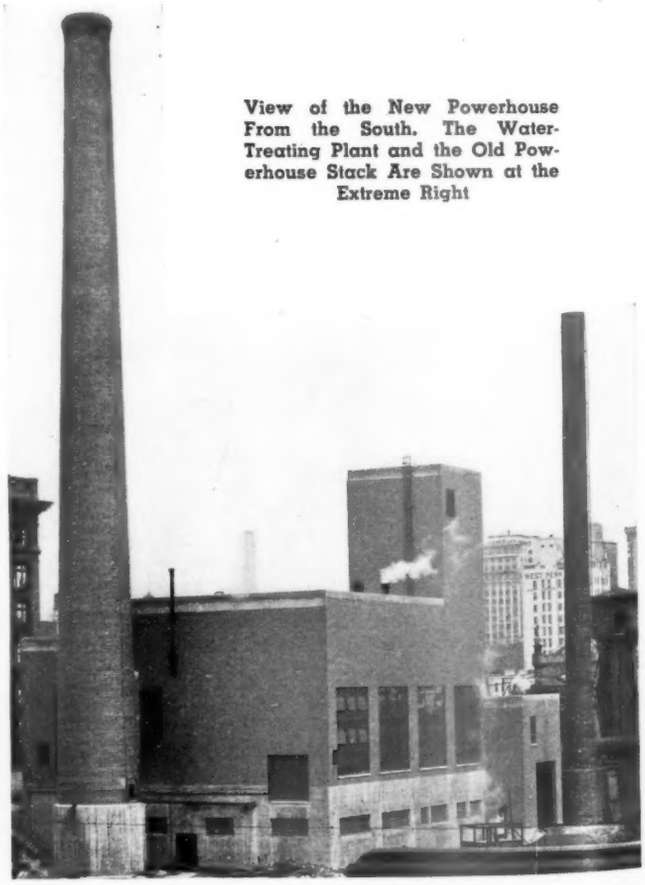
As stated at the outset, H-section bearing piles were also used in the foundation of the main structure. The decision to use bearing piles of this type was based on a number of considerations. It was desired, for instance, to adopt a type of pile that would not result in heaving and that would entail a minimum of vibration during the driving operation, as it was felt that excessive vibration might have a harmful effect on the old powerhouse, which is constructed on a plain concrete mat. Also, since the time element was a factor, it was felt that the H-section piles could be procured and driven in a minimum of time. Incidentally, this project comprises the first instance in which steel bearing piles have been used in building construction work in the Pittsburgh area.

The piles, which consist of 10-in. 42-lb. sections, are arranged either singly under the walls or in clusters under the intermediate columns or at other load-concentration points. The largest cluster, including a total of 45 piles, is under the stack, while under the power-plant proper the clusters contain from 3 to 18 piles each. Altogether the project required the driving of 316 piles. They were driven to rock and have an average length of 67 ft. At their upper ends the pile clusters are encased in reinforced concrete caps, and each pile is capped by a 1-in. steel plate, 1 ft. 4 in. square, which is welded to the pile. To provide for the transfer of lifting stresses to the piles, the floor slab is anchored to them by means of square 5/8-in. reinforcing rods, there being four such rods at each pile, the lower ends of which extend through round holes in the cap plate and are welded to the flanges of the pile. They are of sufficient length to extend up into the floor slab and are provided with right-angle bends at their upper ends.

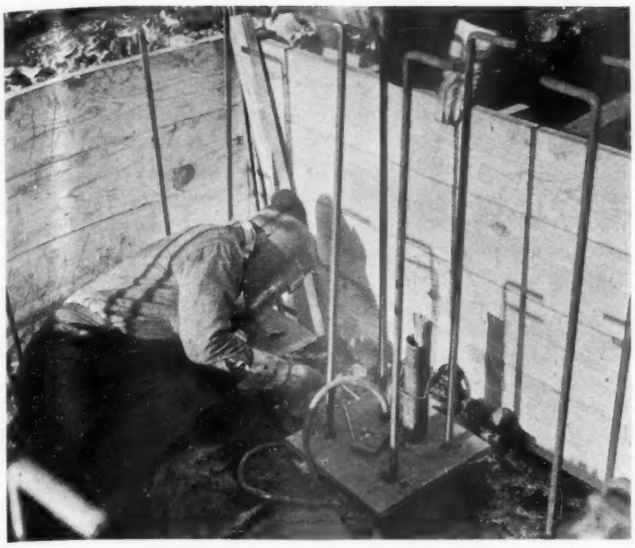
To determine the bearing power, as well as the resistance to uplift, of the piles, tests were conducted at two of the clusters. In each case the test set-up involved three evenly-spaced piles arranged in a row, the center pile being cut off at an elevation somewhat below the tops of the outside piles. For purposes of the test a hydraulic jack was placed on the top of the center pile and underneath a pair of I-beams spanning between the two outside piles, the ends of the I-beams being bolted to the flanges of these piles. Thus, in the tests the jack exerted a bearing load on the center pile and an uplift load on the outside piles, the latter load on each pile being, of course, equal to one-half that applied to the center pile.

In one of the tests, application of the load was started at 11:12 a.m., and, beginning with a load of 20 tons on the center pile, was raised by successive increments to 60 tons by 1:50 p.m., this load being maintained until 2:30 p.m. when the test was terminated. In this case the total settlement in the center pile amounted only to 0.02 ft., while the uplift in the outside piles was 0.24 ft. for the east pile and 0.10 ft. for the west pile. The other test was started at 10:00 a. m., and from an initial application of 20 tons the load was increased by successive increments to 76 tons by 11:45 a.m. In this case the center pile settled only 0.012 ft., while the uplifts in the east and west piles were 0.126 ft. and 0.045 ft. respectively.

Thus, it is evident that the performance of the piles comes well within the requirements of the specifications



View of the New Powerhouse From the South. The Water-Treating Plant and the Old Powerhouse Stack Are Shown at the Extreme Right



The Concrete Slab Anchor Rods Were Welded to the Flanges of the Steel Bearing Piles

which stipulated that the individual piles must be able to withstand an uplift of 15 tons and a bearing load of 30 tons without appreciable movement. A noteworthy fact in connection with the foundation piling is that suitable measures were taken to prevent electrolytic deterioration of the piles as a result of the action of stray currents. These measures consist of the provision of bonds and ground lines, the latter being carried up in the building where they are accessible for test and for the application of any neutralizing charges that may become necessary.

Design of Basement Walls and Slab

In the design of that portion of the structure below the main-floor level, it was necessary to proportion and reinforce the floor slab and the walls to resist the lateral and uplifting forces of a water head on the outside of the building of 15 ft. In this connection the floor was considered as a slab spanning between the footings, without intermediate support from the ground. The floor slab is 2 ft. thick and the walls are 1 ft. 6 in. thick, and in each case reinforcing was provided to resist both positive and negative bending moments. The interior surfaces of both the floor slab and the walls were treated with a metallic waterproofing which was protected with a 1-in. cement wearing surface on the floor and a ¼-in. cement coating on the walls.

The waterproofed substructure of the powerhouse extends beyond the facade of the building to the line of Smithfield street and the space between the facade and the street line is covered at the street level with a concrete slab. All concrete placed on this project was compacted by external electric vibrators and the forms were lined with plywood to obviate the necessity for rubbing the concrete after removal of the forms.

The basement floor slab of the building was constructed as a unit without any pipe or other openings extending through it. To collect any water that may gain access to the ground floor level, a concrete sump, 4 ft. 6 in. by 6 ft. in plan and 6 ft. deep, is provided and provision is made for pumping water from the sump into the sewage system. The number of openings that were incorporated in the concrete walls below the main-floor level was held to a minimum, the few that were provided being adequately waterproofed and otherwise protected against external water pressure. Aside from the window openings which, as stated previously, are filled with glass blocks, the walls are pierced by only one doorway and a number of pipe openings, the latter being rendered water-tight by special caulked sleeves poured into the concrete.

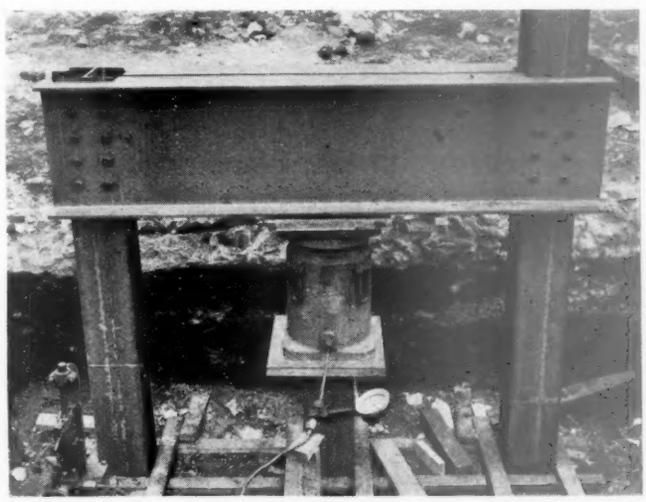
The Glass Block Panels

The glass blocks were chosen for the windows in the waterproofed portion of the structure because of their ability to withstand lateral pressure. The window openings containing the blocks are 4 ft. high and of varying lengths, and are located on the east, south and west sides of the structure. For lateral stability, the edge courses of the glass block panels are set in grooves cast in the sides of the window openings. Also the panels are supported by vertical 2-in. by 2-in. tee sections placed on the interior faces and spaced 2-ft. center to center, and, in addition, metal wall ties are provided in all horizontal joints in the panels. The spaces between the glass blocks and the concrete grooves are waterproofed by caulking, which also acts as a cushion to protect the blocks against breakage due to vibration of the structure.

To permit the doorway in the concrete wall to be sealed against the entrance of water, an aluminum bulkhead of special construction is provided and is kept in a convenient place so that it may be applied promptly in the event of high water. This bulkhead is made in two parts of equal size so that the door opening may be partially or totally sealed, depending on the height of the water. Each part of the bulkhead consists of a $\frac{3}{16}$-in. skin plate of aluminum, stiffened around the edges and intermediately by structural angles of the same material. Connections consist of aluminum rivets driven cold. To receive the bulkhead, the door opening is provided with a special frame of steel shapes to which the bulkhead is applied from the outside by means of bolts. The joints between the bulkhead and the frame and between the two parts of the bulkhead are sealed by means of felt gaskets. A bulkhead of somewhat similar construction, except that it is in one piece, is provided for sealing a pipe tunnel that extends under Smithfield street between the power plant and the terminal building.

Power Plant Equipment

Steam generating equipment in the powerhouse includes three 400-hp. horizontal water-tube boilers with space being provided in the boiler room for a fourth

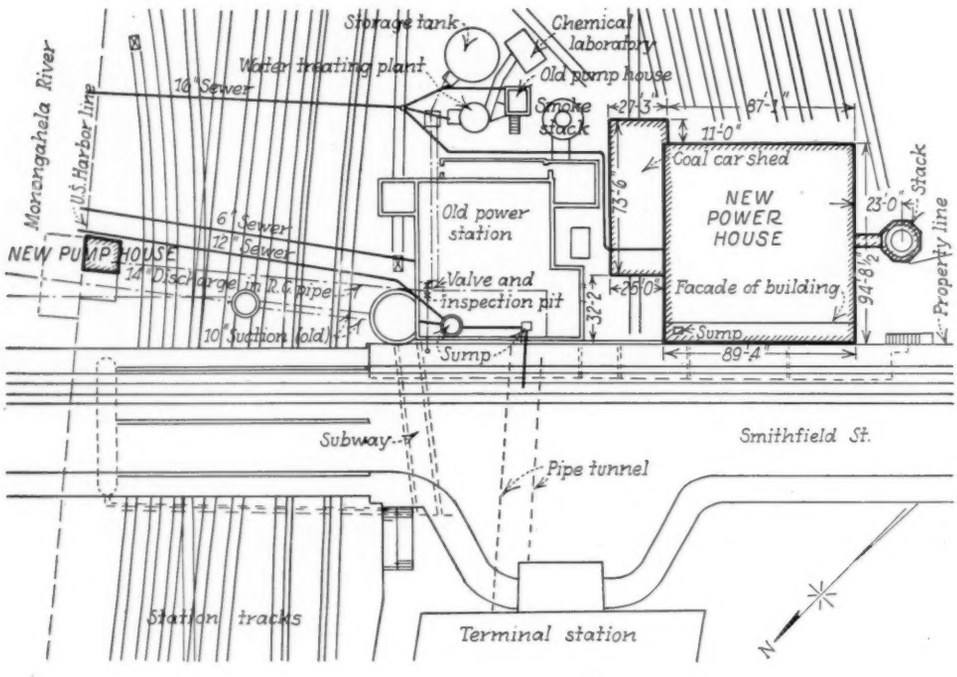


Showing the Set-Up That Was Used for Making the Uplift and Bearing-Load Tests on the Steel Piles

unit if a need for it should arise in the future. The boilers are equipped with steam-turbine driven forced-draft units and are fired by automatic, underfeed single-retort stokers, the hoppers of which are filled by means of an overhead electrically-operated weigh larry having a capacity of 2,000 lb.

Ash from the boiler fireboxes and soot from the stack are disposed of by transference by means of a vacuum conveying system to a 53-ton capacity cylindrical ash hopper mounted on the roof of the coal-car shed on the east side of the powerhouse. Before entering this hopper the ash and soot are passed through a separator where the fine material is washed out while the heavier particles fall into the hopper. A gate in the bottom of the hopper permits the ashes to be discharged directly into a car spotted on the coal-unloading track.

Coal for use in the power plant is unloaded from the bottom-dump cars into a small steel pocket under the track in the coal-car shed. From this pocket, the coal is conveyed by an automatic electrically-operated skip hoist to the top of an overhead cylindrical steel bunker having a capacity of 150 tons. From the bunker, which is conically-shaped at the bottom, the coal is discharged by gravity into the weigh larry mentioned above.



Plan Showing Location of the New Powerhouse and Adjacent Facilities of the P. & L. E. at Pittsburgh

Other Equipment

Other equipment embodied in the powerhouse includes two 750-kw. turbo-generators; two steam-operated air compressors with a combined rated output of 1,500 cu. ft. of air per min., one of which, a standby unit, was moved from the old powerhouse; a steam-turbine-driven fire pump having a capacity of 1,000 gal. per min. against a pressure of 150 lb. per sq. in.; two head-house pumps, each of which has a capacity of 100 gal. per min. against a pressure of 151-lb.; two motor-driven pumps for transferring water from the condenser to the water-treating tank; and two steam-turbine driven hydraulic elevator pumps, each of which has a capacity of 1,000 gal. per min. against a pressure of 300 lb. All of the foregoing equipment is situated on the main floor of the powerhouse; operating equipment that is located on the lower level of the structure is limited to a number of water circulating pumps and a condensate return pump.

In the design of the powerhouse, special provision was made for transferring the loads of the turbo-generators and the compressors directly to foundation piles, a cluster of which is provided under each of the machines. Thus, the compressors are each mounted on a reinforced concrete box or hollow pier, having side walls 1 ft. 6 in. thick, the lower edges of which rest in recesses 2 in. deep in the basement floor. To prevent the transfer of vibratory action to the basement floor slab, the walls of the compressor foundations rest on vibration mats about 3¼ in. thick, consisting of layers of sheet lead and asbestos. Also, the recesses in the slab were made two inches wider than the walls of the compressor foundations and the 1-in. spaces on each side of the walls in the recesses are filled with cork. Moreover, at the main-floor level each compressor foundation is separated from the surrounding floor slab by a ½-in. opening extending entirely around the foundation. Unlike the foundations for the compressors, those for the turbo-generators are of structural steel construction, involving columns and main beams of wide-flange sections braced with angles, and embody provision for supporting the condensers within their frames.

The Pumphouse

The new pumphouse is situated directly on the bank of the river and is so constructed of brick and concrete as to harmonize in outward appearances with the powerhouse. Equipment in the pumphouse consists of two electrically-driven turbine pumps, each having a capacity of 2,000 gal. per min., which are situated on the floor above the extreme high-water level. Discharge from the pumps is carried to the powerhouse in a 14-in. line which, for a distance of 155 ft. from the pumphouse, where it extends under the two main and six side tracks, is contained in a 54-in. reinforced concrete pipe where it is accessible for inspection and repair. Several Transite conduits carrying electrical wiring are also located in the concrete pipe.

A number of interesting features of design and construction are incorporated in the pumphouse, most of which have to do with measures for insuring that all undesirable solid matter will be removed from the water before it enters the pump pits. The intake is located directly at the base of the structure and, to allow for an expected rise of seven feet in the pool level of the river at this point, it was considered desirable to provide two intakes, one of which is six feet above the other, the upper intake to be brought into use and the lower one taken out of service when the expected rise in the pool level takes place. Water entering the intakes first passes through an intake screen, consisting essentially of 5/8-in. wrought iron bolts placed on two-inch centers, which is inclined at an angle of 45 deg. and so arranged in guides as to permit it to be raised out of the water for cleaning. The intake in use is equipped with a 30-in. sluice gate.

The water first enters a settling chamber, 4 ft. 6 in. by 14 ft. in plan, from which it passes by means of 24-in. sluice gates into two secondary settling chambers, each of which is 4 ft. by 6 ft. 6 in. in plan. From each of the latter chambers the water must pass through two vertical bronze screens, the first having 3/4-in. openings and the second 3/8-in. openings, before it enters the pump pit. The latter screens are likewise placed in guides to permit them to be raised for cleaning and, to prevent material dislodged from the screens from falling into the settling chamber, the lower screen is fitted with a wire basket at its lower end. Another feature of the settling chambers is that they are covered with slabs of lightweight concrete, which can be removed to permit access to the pits for cleaning, inspection or repair.

The design and construction of the new power plant and pumphouse were carried out under the supervision of R. P. Forsberg, chief engineer, and G. H. Burnette, assistant chief engineer, of The Pittsburgh & Lake Erie. Construction work on the powerhouse was started in November, 1937, and on January 1, 1939, the power plant facilities were placed in partial operation, the full load being transferred from the old powerhouse to the new facilities on March 1.

B. H. Meyer Speaks His Mind

(*Continued from page 898*)

and with probably no more benefit. A wholesale redistribution of rates and charges, either among commodities or among rate territories, is a task of staggering proportions. It is difficult enough when undertaken in particular cases on individual records, but broad, general territorial readjustments are in danger of becoming practically impossible.

"The immediate cause of this most recent movement of direct congressional rate making appears to have been the discovery by some people of interterritorial rates. As you all know, rate groups and rate territories are as old as the railroads, not only in this but also in foreign countries. The Interstate Commerce Commission has dealt with them since its creation. Its members have done their best to establish lawful group and intergroup rates, in cases where such rates have been submitted for its adjudication. Judgments sometimes differ, but when those eleven men have spoken, their verdict becomes the law of the land, binding upon all law-abiding citizens.

"If unlawful rate walls or trenches exist it is possible to show them to the Commission and it will raze the walls and fill the trenches to the extent required by a conscientious and faithful consideration of the facts and the law. The Commission will do this as expeditiously as the size of the job permits. **The disdainfully flippant remarks sometimes made about the alleged lack of speed on the part of the Commission are thoroughly unworthy.** The nature and size of the job controls the speed and the time. The Commission is continuously revising the rate structure of the country as particular situations come before it. Its experience under the Hoch-Smith resolution dictates caution in undertaking such all-inclusive tasks, not only for its own protection but for the good of shippers and carriers. Apparently because these orderly processes seem too slow to some, attempts are again being made to persuade Congress to adopt, for instance, some one rule of universal application to govern the making of interterritorial freight rates.

"It is my understanding that one scheme is to abolish all rate territories and to apply a uniform ton-per-mile charge throughout the United States. That may be a desirable ideal toward which to work as the country develops through a long period of time and becomes economically more homogeneous. It might simplify some things. However, it would not change the location of the mountains and the valleys, forests and mines, deserts and fertile fields. They would remain where they are. Physically the country would remain as it now is.

General Ton-Mile Rates Would Cause Upheaval

"To impose upon such a country arbitrarily with a single stroke, a rigid rule would probably cause such a disturbance of business that a special session of Congress would become necessary to calm the turmoil. The effect on particular railroads would be severe unless all of them would first be placed under a single ownership or all their revenues pooled in a single pool. Uniform ton-per-mile rates now apply on some traffic. They could properly be applied on more traffic, possibly with benefit, but certainly not with harmful results. However, the rigid application of a uniform ton-per-mile rate by law throughout this broad country on all interterritorial traffic, which means chiefly long distance, highly competitive, heavily moving commodities, would do violence to nearly every interest connected with such traffic.

"In my attempt to visualize the consequences of the application of a uniform ton-per-mile charge throughout the country, a grotesque illustration has occurred to me which I shall try to describe. It is this. **Let all women's dresses be made according to uniform dimensions. Let all men's suits be made likewise. On the day when the uniform ton-per-mile law goes into effect, let men and women appear on the streets in their respective garments, all uniform in size. The grotesque appearance of persons thus attired would illustrate the then state of business, including the railroads, under this universal equal ton-per-mile panacea.** The uniform ton-per-mile freight rate would fit the multitude of different freight producing enterprises under a multitude of different conditions no better than the uniformly dimensioned garments fit the human bodies with their multitude of variations in measurements.

"You have seen notices in the press to the effect that in specified territories the test of qualifications for candidates for public office in 1940 will be their devotion to equal ton-per-mile freight rates. It is to be hoped that voters throughout the nation will search candidates for sounder tests and more worthy qualifications and decisively retire from the field all equal ton-per-mile political promoters."

"Railroads at Work" at the Fair

Model railroad laid in diorama of 7,000 sq. ft. performs in 30-minute show put on by 27 Eastern roads to depict complete daily operation

THE railroads have become innovators in the world of the theatre—a realm where "something new under the sun" is hard to find. The 27 Eastern railroads comprising the membership of the Eastern Presidents' Conference are the first entertainment "producers" in the world to present a drama, with all the actors being model locomotives and cars, playing their parts in a complete Lilliputian setting. This they have done at the New York World's Fair in a presentation entitled "Railroads at Work" which depicts on a small scale and in half an hour the 24-hour real-life drama which the railroads of the country enact daily.

Located in a separate section at the north end of the railroad exhibit building, the auditorium for "Railroads at Work" contains a sloped "grandstand" seating a total of 1,000 spectators. The "stage" for the show is a huge diorama 160 ft. wide and 40 ft. deep, and covering about 7,000 sq. ft. upon which 3,500 ft. of "O"-gage track (¼ in. to the ft.) has been laid, the design of which embodies in miniature the typical topographical features found along main line trackage in the Eastern states. Were the measurements of the diorama translated into life-size, the audience would be viewing, in perspective, a landscape of 50 sq. mi. in area with approximately 40 mi. of railroad track.

Statistics of the Lay-out

The unusual realism of the model layout is the result not only of the meticulous attention given to design but as well of a multiplicity of separate parts not possible in the ordinary model railroad set-up. Here are some of the striking statistics of the diorama:

70,000	miniature ties
280,000	rail spikes
3,500	ft. of track
450	cars
50	locomotives (steam and Diesel-electric types)
1,000	individual buildings (each proportioned so as to provide proper perspective)
7,000	trees
250	tiny light-bulbs in the buildings
7,000	gal. of real water in miniature waterways
500	signal lamps
3,000,000	ft. of wire in signal and control system
2,000	scale miles or 40 actual miles, covered by each model "through" train every week
50	through train movements at "Main-line Junction" during each 30-min. performance

"Railroads at Work" is a drama as well as a detailed diorama. Each hour, on the hour, between 10 a. m. and 10 p. m., the "house-lights" are switched off and the entire unit is co-ordinated in a 30-minute performance which illustrates the operations of a large railroad through a 24-hour cycle. An announcer carries on a running commentary during the show through a loud-speaker system and spot-lights from time to time the more important operations on sections of the diorama. So large is the layout and so complicated the operations, however, that he shares with the ringmaster of a three-ring circus the physical impossibility of getting everything in. On the whole, spectators have a wide field to choose from.

The 24-Hour Cycle

The show opens with a darkened stage; only tiny stars in the plaster sky, flood-lights in the classification yard and a myriad of red, amber and green signal lights appear. It is 4 a. m. A night express run pulls out of Union City station; a fast freight rolls into the freight receiving yard. Gradually the stage grows lighter; finally the whole diorama comes into sharp relief; things begin to happen; more freights pull into the yard; model textile, steel, chemical and cement plants along the rights-of-way and a pickle factory on the hill begin to pour forth smoke; a fleet of multiple-unit commuters' trains make much ado on the suburban loop line out of Union City; the active day begins.

Operators at the controls then put the model railroad through its paces in a series of operations, each of which involves the use of special model equipment, all of which operates as standard. Some of the more interesting follow:

Outbound Classification Yard (steam switcher makes up local drop freight train by "flat" switching; local departs on lead to main line).

Coal Mine Tipple (empty gondolas are loaded, made up into a "mine run" and proceed along mountainous line through a tunnel down to water level).

Car-Ferry and Slips (Diesel-electric switcher loads cars onto two tracks of model single-end car-ferry which proceeds across river through real water, turns and backs into slip at opposite shore; another switcher unloads cars over float bridge and hauls them to "tide-water").

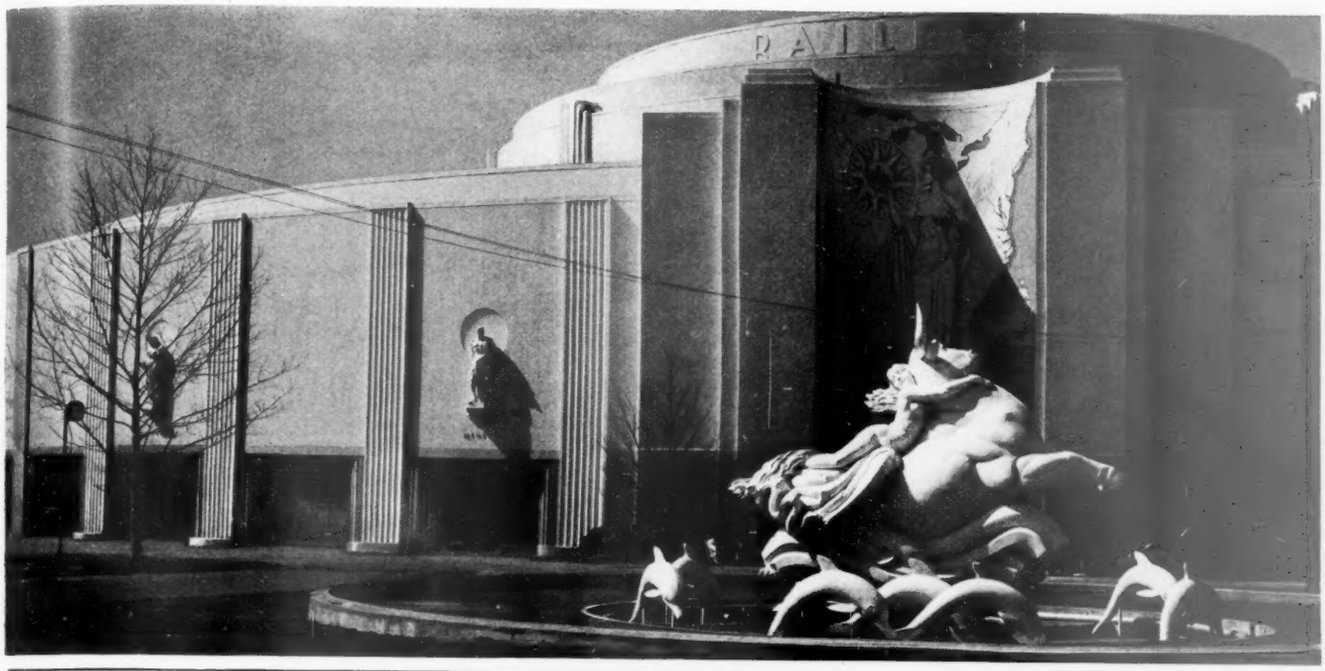
Rotary Car-Dumper (Cars fed one by one to a cable barney which carries them up incline to elevator cradle where they are turned over and their contents of real coal dumped into hold of a model vessel, which operation is plainly audible to the audience; cars are returned to empty yard by switch-back tail track).

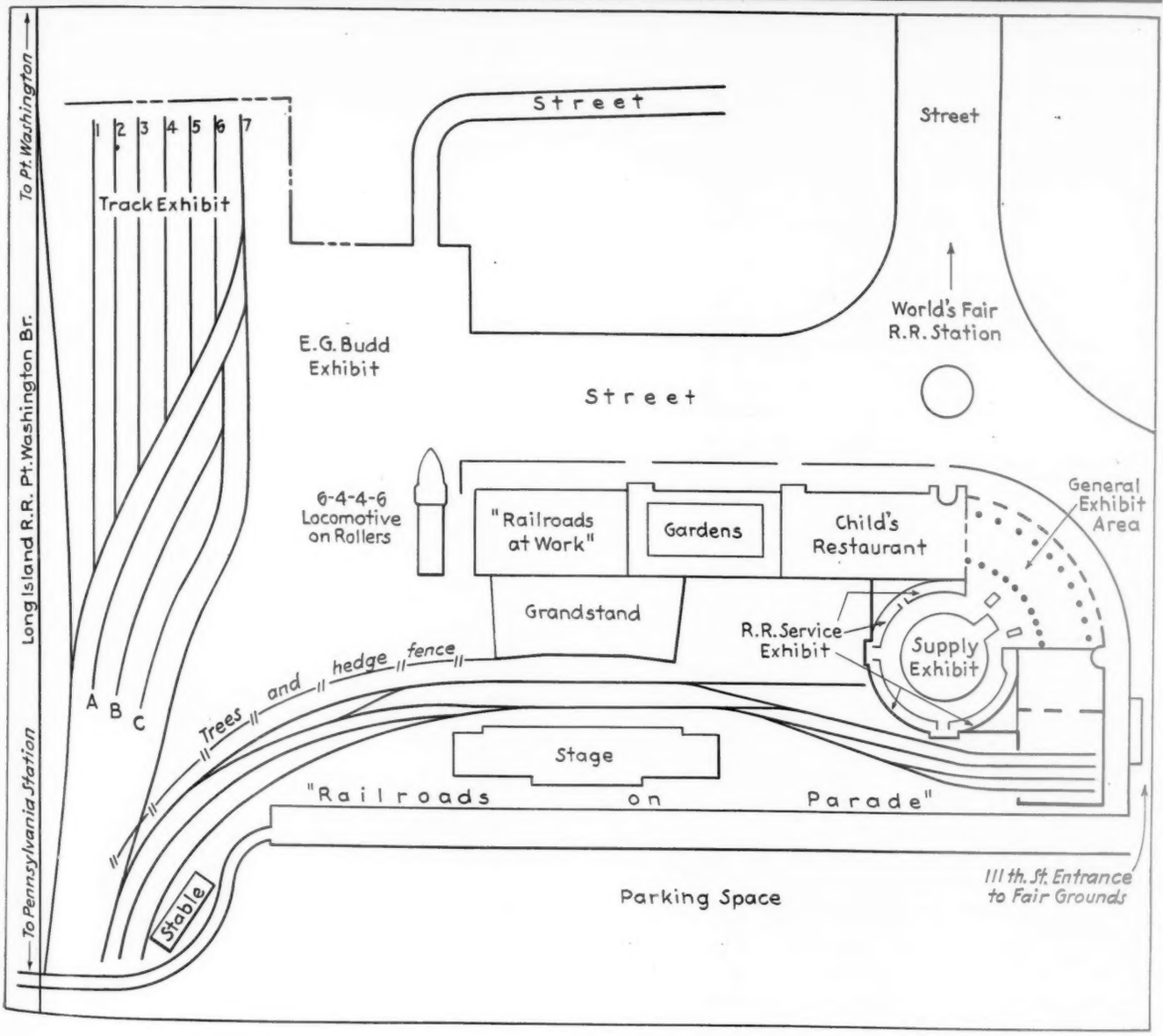
Railroad Building at the Fair

The 17-acre railroad exhibit building at the New York World's fair, largest at the exposition, is shown in illustration and plan appearing on opposite page. Valued with contents at between $3,000,000 and $5,000,000, it was erected by the member roads of the Eastern Presidents' Conference,

Baltimore & Ohio
Bangor & Aroostook
Bessemer & Lake Erie
Boston & Maine
Central of New Jersey
Central Vermont
Chesapeake & Ohio
Delaware & Hudson
Detroit, Toledo & Ironton
Erie
Lackawanna
Lehigh & Hudson River
Lehigh & New England
Lehigh Valley
Long Island
Maine Central
New York Central
Nickel Plate
New Haven
Norfolk & Western
Pennsylvania
P.-R. Seashore Lines
Pere Marquette
Reading
Rutland
Western Maryland
Virginian

The Railroad Building—Largest at N. Y. World's Fair





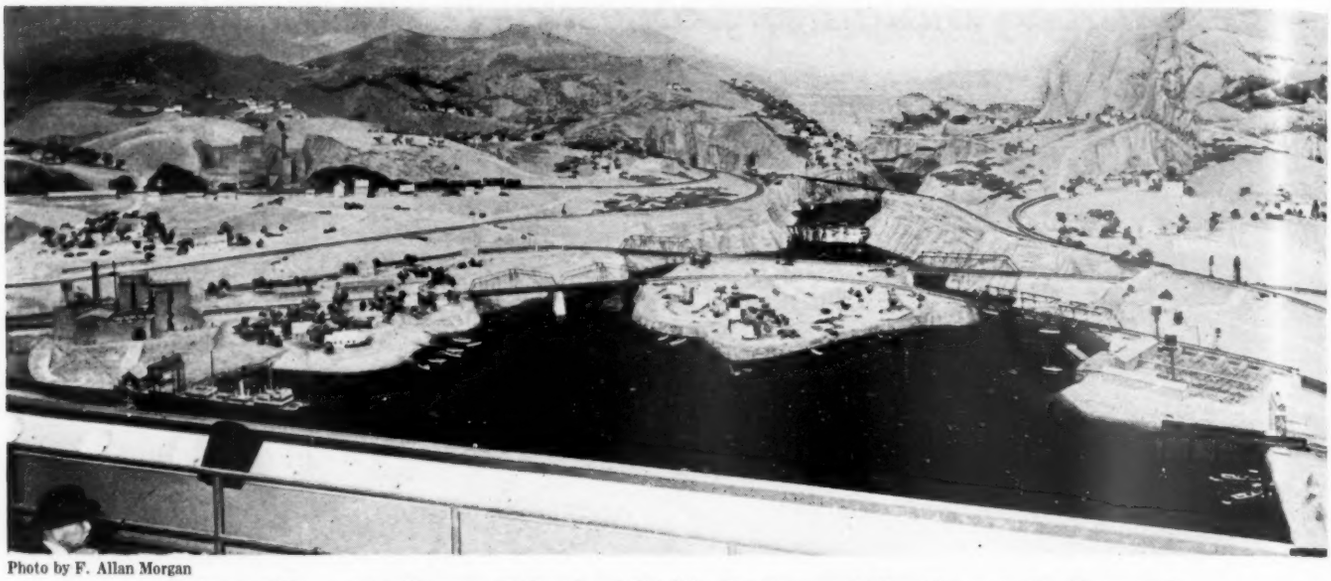


Photo by F. Allan Morgan

A General View of the Diorama "Railroads at Work." Car-Ferry and Slips Shown in the Foreground

Hump and Classification Yard (A steam switcher takes over a string of cars from an incoming road locomotive and pushes them over a hump where they are cut and allowed to roll down to car retarders and "stoppers").

It should be noted that during all these demonstrations of particular operations the model system is busy with regular freight and passenger trains, which in most cases pass across the scene on main tracks looped around out of sight behind the background to permit continuous automatic operation. Each passenger train makes a stop at Union City station automatically or under manual control.

In order that the complex procedures described above might be carried on without direct human intervention on the diorama proper, designers of the layout had to develop a number of devices hitherto unknown in model railroading. The yard operations, for example, require not only automatic coupling, as in life-size practice, but automatic *uncoupling* as well. The latter is accomplished by the installation of small diamond-shaped lifts between the rails at strategic points which, when actuated by remote control, rise between the movable jaws of the car couplers above, spreading them apart and disengaging the couplers. The car retarders, while not controlled, are located along the rails as in real practice and decrease the speed of the cars by natural spring adjustment. The "stoppers" referred to are movable "bumpers" placed between the rails beyond the retarders performing the function of rail skates.

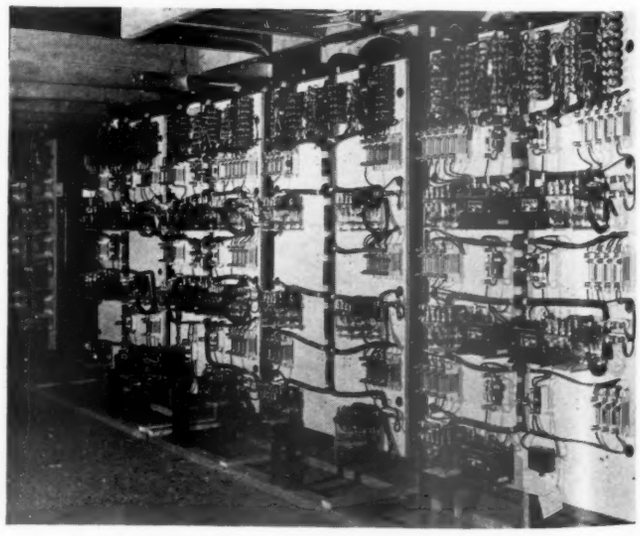
Toward the end of the show, automatic time switches gradually reduce the daylight flood-lights and lamps in the individual buildings are switched on; staff men behind the diorama switch on lights and markers in the cars and locomotive headlights as the trains pass around behind the backdrop on their looped tracks. The suburban trains engage for a time in a rush of activity; a fleet of through passenger trains depart; then one by one the building lights blink out; finally all but the station lights are extinguished. It is 4 a. m. once again and the show is over.

Control System Is Extensive

Operation of the entire model layout is controlled from three "towers" or booths located on the grandstand near the ground level. Manned by veteran towermen on leave from actual railroad service and inter-connected by a standard railroad telephone line, these booths contain the control cabinets which control switches, interlocking signals, train speeds and direction, uncouplers, retainers and motors operating the turntable, car dumper, etc. These control cabinets are similar to those installed in standard remote control systems and include sectional panel-boards on which white lamps indicate track occupancy and red and green lights show switch and signal indication. Towermen also control supplementary devices such as sound whistles, sirens, etc.

Provision is made on the main line tracks for automatic operation. Three-aspect, color-light, position-light and color-position light automatic block signals controlled by track occupancy automatically govern the speed of trains by inter-connection with the electric propulsion circuits. Spaced about 20 ft. apart (equivalent to 1,000 actual ft.), the block signals afford complete protection to the system. Junction signals and switches are completely interlocked and special circuits make it impossible to throw switches under a train. Trains on these through

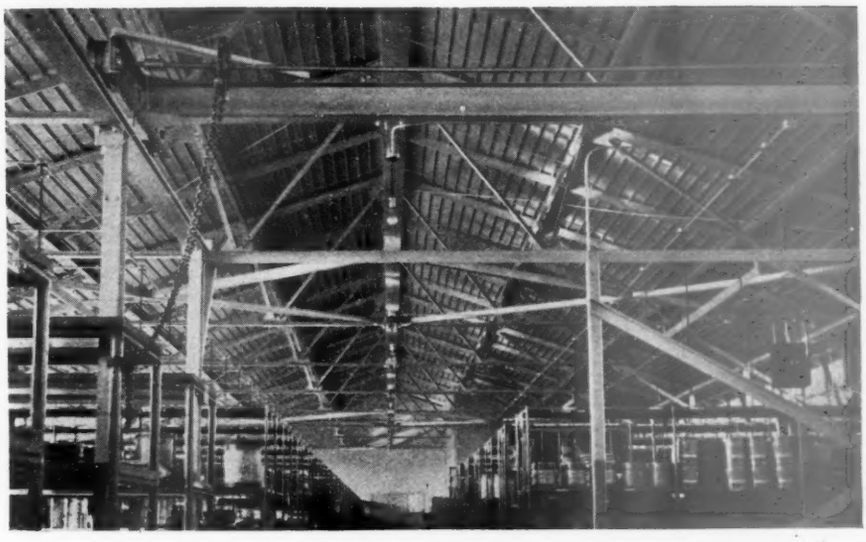
(*Continued on page 912*)



A Portion of the Relays Which Control Operation of the Model Railroad

U. P.'s Newest Storehouse Well Equipped

Installation at North Platte, Neb., exemplifies growth in use of steel and motorized operations in railway supply work



Inside the North Platte Store

THE Union Pacific's new storehouse at North Platte, Neb., has already been the subject of an article* in these columns in which emphasis was placed on construction details, including the use of a unit type steel building with panels of metal clad insulation for walls. From a storekeeping standpoint, the project also has the distinction of being the largest, if not the only railroad store built in 1938.

174 Machines for Material Handling

In contrast with a period within easy recollection when storehouses had only warehouse trucks for handling materials, it is noteworthy that Union Pacific stores in the aggregate are now equipped with 174 automotive equipments and 15,267 pieces of auxiliary equipment for handling material as follows:

2	automobiles
2	motorcycles
67	highway trucks
41	industrial tractors without hoists
29	industrial tractors with hoists
18	lift trucks, gas electric power
5	lift trucks, gasoline powered
1	lift truck, storage battery powered
1,030	trailers for industrial tractors
6,635	portable platforms for lift trucks
7,602	portable containers for lift trucks

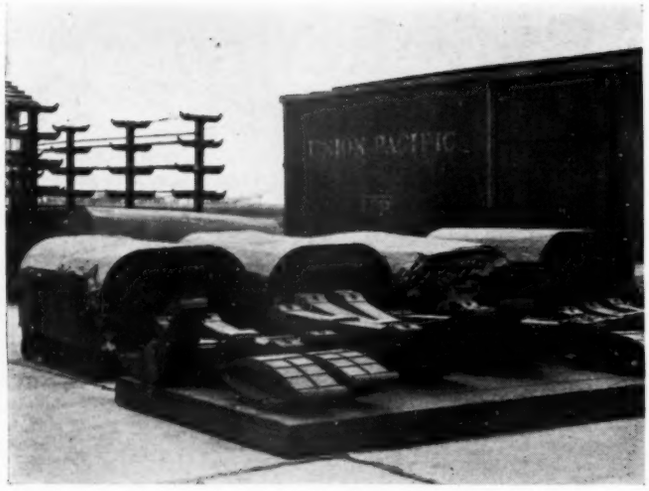
North Platte is an intermediate terminal on the main line 281 miles west of Omaha. The railroad now has a 28-stall engine house, a new 90 ft. by 228 ft. machine shop, and car repair tracks at North Platte which normally employ 215 men on locomotive repairs and 87 men on car repairs, and it built the new store in 1938 to furnish and control the material required for these shops.

Although the new store is thus a local store rather than a store of general distribution, it is modern in every respect, notably free from fire and safety hazards and conspicuously neat in appearance and arrangement. It has 20,410 sq. ft. of concrete platforms and floors, 432 lin. ft. of steel racks with approximately 6,000 sq. ft. of shelf space, all painted in grey enamel, 2,070 sq. ft. of island platforms and 5,100 trays for the unit piles of small material. The building has modern plumbing and 100 electric lights. In the office are steam radiators and in the storehouse, 7 overhead electric fan steam heaters while the equipment for handling materials includes 6 trucks, tractors and hoists.

The construction extends over an area 405 ft. long and 50 ft. wide which is built on a fill enclosed in concrete walls and topped with concrete. The storehouse is 180 ft. long and 40 ft. wide. One side is flush with the edge of the platform and the front is set back 10 ft., which leaves platform space across the front for handling material by auto-truck, lift-truck, tractor and trailer and a platform space of equal width along one side of the store where a track is laid for out-going and in-coming cars. At each end of the platform is a ramp to the ground 32 ft. long and at the rear end of the platform are two steel buildings, each 16 ft. long and 12 ft. wide. One is used for storing fusees, torpedos and matches. The other has screened openings under the eaves and is used for storing acetylene and oxygen. A fireproof cabinet is also built inside the main storeroom near the delivery counter for keeping small quantities of inflammables while filling requisitions.

The space between buildings is approximately 200 ft. long and 50 ft. wide and is used to store outside material. Most of this material is on island platforms and racks. Bars, tubes and steel shapes are kept on racks in which rows of steel arms or prongs extend outward and upward from each side of central uprights. Small car castings and forgings are stored on wood racks in which the shelves are built on rectangular wood frames which are open on all sides. The island platforms are rectangular foundations of wood approximately 4 ft. wide, 6 in. high and 16 ft. long. These outside platforms and the

* *Railway Age*, December 17, 1938.



Skid-Loads of Material Wearing "Raincoats"

racks were obtained from the abandoned facilities at North Platte and are all laid out in regular rows, with wide lanes between for operating tractors and lift-trucks. Spaces are also reserved on the platform where material can be left in containers.

Bright Interior

The storehouse has an office 40 ft. long and 12 ft. wide and a locker room 22 ft. long and 12 ft. wide; otherwise the interior is one large room presenting an orderly arrangement of steel shelving which extends to the side walls from a central aisle 6 ft. 6 in. wide. A few racks consist of wooden shelves on frames made of boiler tubes but most of the shelving consists of new assemblies 30 in. wide, 6 ft. 6 in. high and 16 ft. 3 in. long with open construction in both ends and sides. The construction of these racks permit great flexibility in shelf arrangement. The installation also includes an arm type rack for tubing and a delivery counter of steel fitted with shelves. All shelving is finished with a gray baked enamel instead of the conventional green color and this harmonizes with the gray interior of the building and the high ceiling to give the store room a pleasing appearance. In keeping with the long established practice on the Union Pacific, practieally all of the material in the store is placed on metal trays and the quantity of material in each tray is shown by markers attached to the trays. This arrangement is preferred to bins on the Union Pacific.

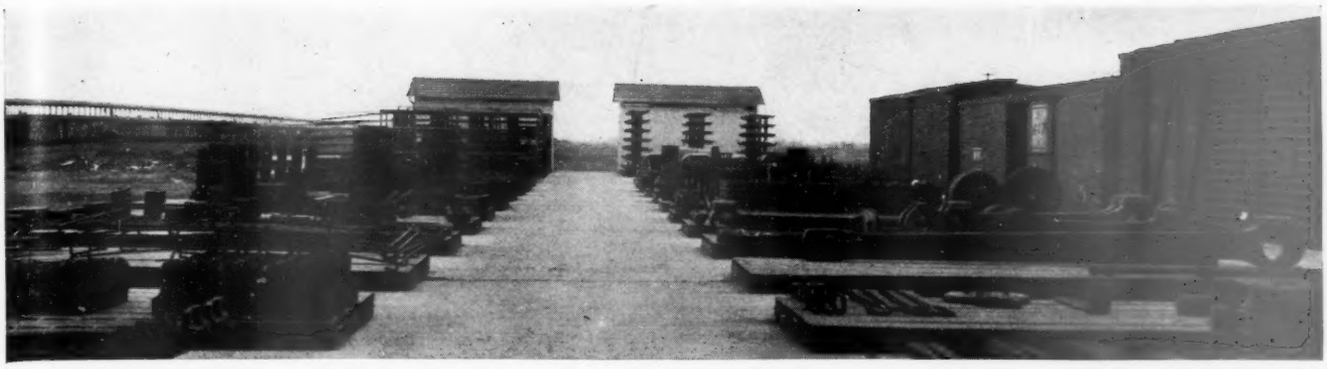
Overhead Hoist for Brass

In one corner of the store, four island platforms, each 4 ft. wide and 16 ft. long, are placed, on which crown brasses, rod bushings and other large brass castings are stored. A ¼-ton high speed hand operated chain hoist is installed on a trolley above these platforms so that the material can be lifted and moved from the center aisle and platforms without accident. For handling crown brasses a scissor type clamp is used which has a lug on the short prong which fits into the oil groove of the brass. The large rod bushings are placed on individual steel pans, each of which has an eye bolt through the center which fits the hook on the chain hoist. The increase in the size and weight of the bearings for locomotives has given importance to these safety measures.

Six machines are available for transportation. A 1½-ton auto truck with a stake body carries materials to and from the freight house and baggage room and to outlying roadway, water service and bridge and building shops and this truck is also employed to transfer men, material and fuel to jobs on the line of road. A 1½-ton auto truck with a stake body is used for cleaning up around tracks and for assisting the repair forces in performing their work.

The material handling equipment also includes one tractor with a boom revolving in a half circle for loading wheels or handling other heavy material. Another tractor is fitted with a hoist to handle materials on skids. Still another tractor is assigned for heavy towing, while another tractor is equipped with a box on the rear and

All Material Is Unit-Piled on Open Style Steel Shelves and Racks or Island Platforms. The Shelves Are Finished in Gray Baked Enamel



Outside Material Is Laid on Island Platforms, with Wide Aisles for Tractor Operation. Storage for Inflammables in Rear

a box on the side for use as a shop delivery truck and for pulling trailers. Within the near future this equipment will be enlarged by the addition of a power lift-truck.

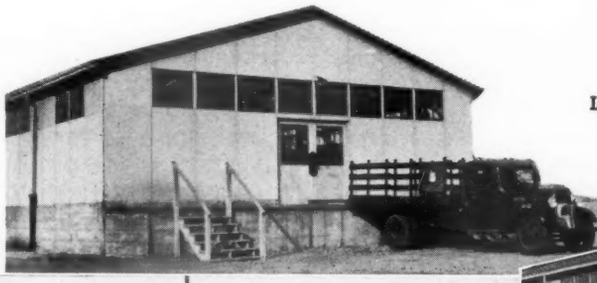
During the many years in which the railroad has used tractor equipment in stores work, much attention has been given to the development of special types of auxiliary equipment, of which examples are found in use at North Platte. Four special types of containers are illustrated. One is an underslung trailer of steel for hauling quantities of crown brasses between the store and shops. Another is a flat top skid fitted with a tipping bucket. Another container is a box type skid which has been fitted with a hinged cover and hasp for handling brass and other material subject to pilferage during storage or shipment.

In addition, it is now routine practice in stores work on the railroad to furnish all outside points with metal covers to protect triple valves, air pumps and similar material which are mounted on skids or stored on platforms outside of round houses, etc. One of the pictures shows several of these covers in use at the North Platte store. They are 38½ in. wide, 58 in. long and 24 in. high inside, and were made from 18 gage sheets salvaged from old freight cars; average weight is 67 lb.

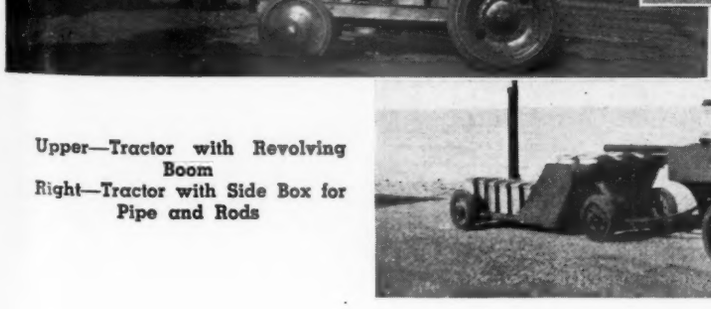
The store force at North Platte consists of 16 employees as follows:

1 storekeeper
1 section stockman
1 clerk
3 countermen, giving 24-hr. service
1 first stores helper
1 caboose supply man
1 relief helper for employees working on six-day assignments
2 delivery men
1 laborer
1 tractor-crane operator
1 truck operator

All materials and supplies for North Platte are received from the general store at Omaha, Neb., except wheels which are obtained from the company's railroad shops at Cheyenne, Wyo. All transfer requisitions are priced when received. The prices are placed on small tags placed immediately to the right of the bin labels unless the prices can be marked directly on the material. The helper or delivery man issuing material places the price on the requisition at the time the material is issued, delivered or shipped, thus eliminating the use of price books. The Union Pacific experimented for some time with the direct pricing plan and now employs this method at all stores.

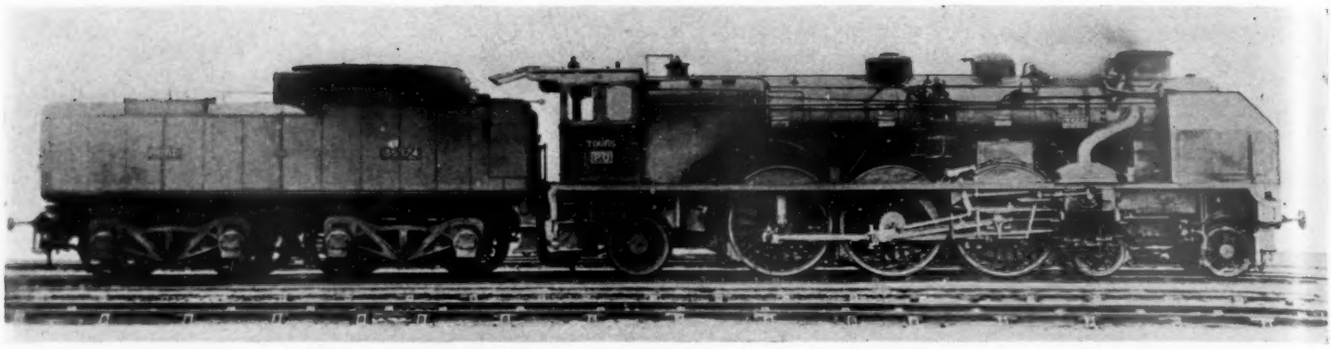


Left—The Storehouse Is Factory-Built 180 Ft. Long



Upper—Tractor with Revolving Boom
Right—Tractor with Side Box for Pipe and Rods

Upper—Lift Truck. Skid with Dumping Body. Skid with Hinged Top and Lock



The Paris-Orleans Railway Pacific Type Locomotive No. 3566 After Modernization which Marked the Beginning of the Successful Use of Poppet Valves in France—The Valve Installation Is of the Oscillating-Cam Type

Poppet Valves in Europe

Including the British Empire and the Dutch Colonies, over 1,100 locomotives have been equipped on 34 railroads — The oscillating-cam type predominates

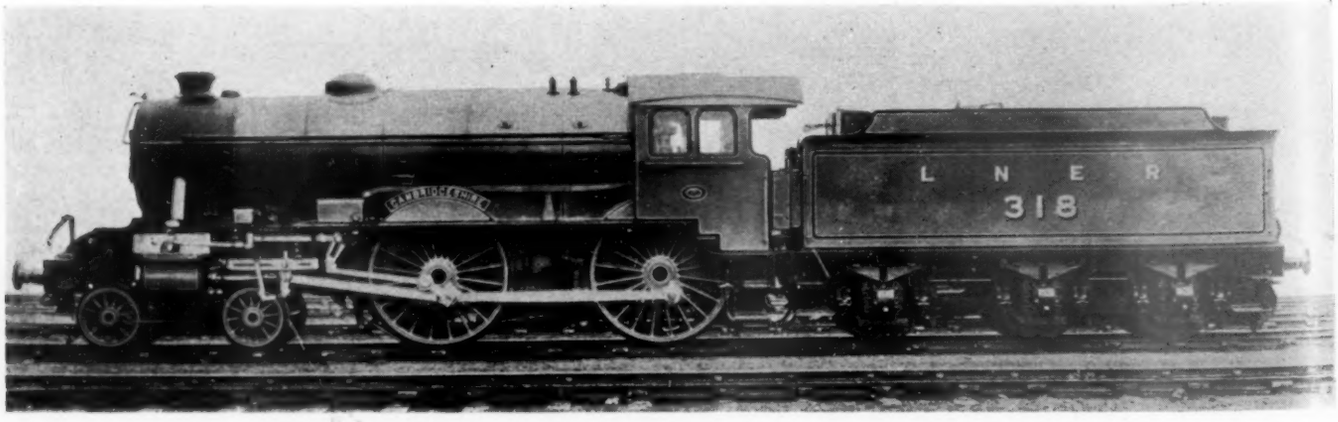
POPPET valves for locomotive steam distribution have been the subject of extended consideration and trial in Europe for a period which extends well back toward the beginning of the Twentieth Century. These developments have been of two general types—the vertical and horizontal. The Caprotti gear is the best-known example of the former, and the gears developed under Lentz patents the principal example of the latter. The latter have been more widely applied, and this review of poppet-valve developments is confined to that type.

Most of the early poppet-valve installations were on locomotives of relatively small size which were not required to operate at speeds high enough, or with sufficiently high steam temperatures to bring into play the full advantages which these valves offer in the matter of improved steam distribution, greater steam economy, and greater freedom from lubrication difficulties. Following the war a pronounced lack of lubricating oil became a factor favorable to the use of the poppet valves in Austria, and a large number of locomotives were equipped with gears developed under the Lentz patents. Even in this case, however, the requirements concerning power and speed were moderate.

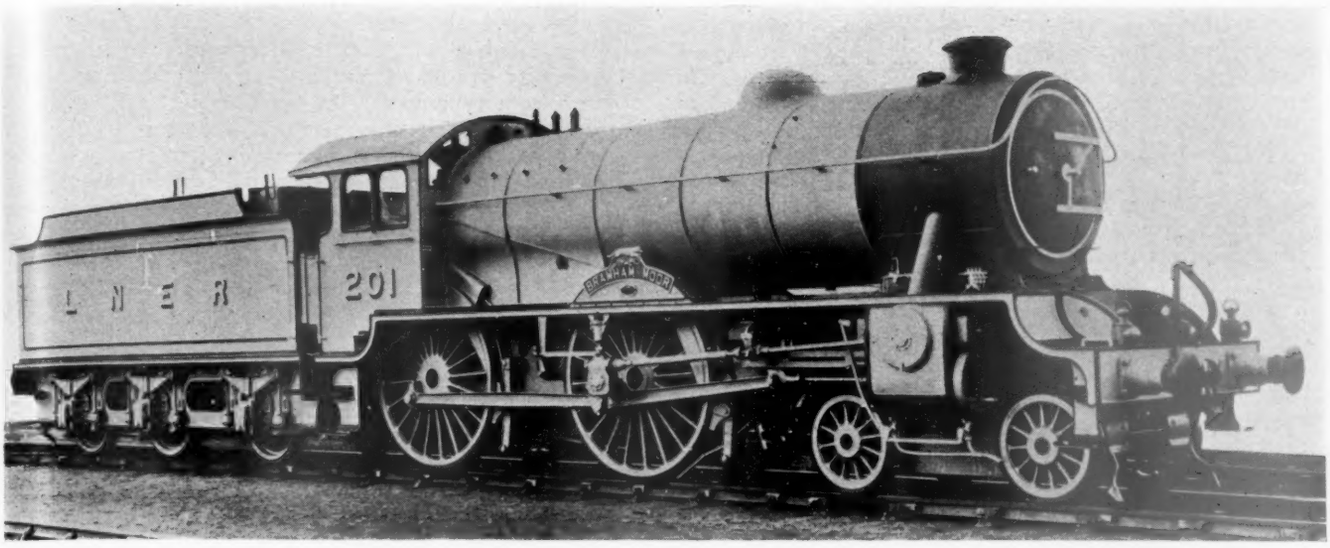
In England, the active development of the poppet valve began in 1923 when the London & North Eastern applied two Lentz poppet valves of the oscillating-cam type driven by the Walschaert valve motion. These locomotives were the forerunners of more extensive applications on several classes of locomotives, including valve gears both of the oscillating-cam and rotating-cam types.

On the Continent, the use of the poppet valve has been extensive not only in Austria, but in France as well, where the engineering development of the Lentz type valve and valve-drive mechanisms has been carried on by the Societe d'Exploitation des Procedes Dabeg.

When a Pacific type compound locomotive of the Paris-Orleans Railway in France was equipped in 1927, a failure resulted. The locomotive was no more powerful, nor was it more economical or speedier than others of the same class with piston valves; rather, the contrary was true. However, realizing the possibilities of the poppet-valve principle, particularly for low-pressure cylinders of large diameter, the Paris-Orleans Railway



A London & North Eastern 4-4-0 Type Locomotive Equipped with the Oscillating-Cam Type Poppet Valves



A London & North Eastern 4-4-0 Type Locomotive Fitted with the Rotating-Cam Type Poppet-Valve Gear

continued with the development, and analysis of the test results obtained with the first locomotive led to the development of appropriate ratios for valve size and the size of steam pipes, and in 1929 an application was made on a Pacific type compound locomotive No. 3566, which was successful.*

The poppet valves were applied to both the low-pressure and the high-pressure cylinders of this locomotive, and several other alterations and refinements in design were made, in addition to the poppet-valve installation. Its remarkable performance attracted wide attention and has determined the trend of steam-locomotive development for high-capacity, high-speed performance in Europe.

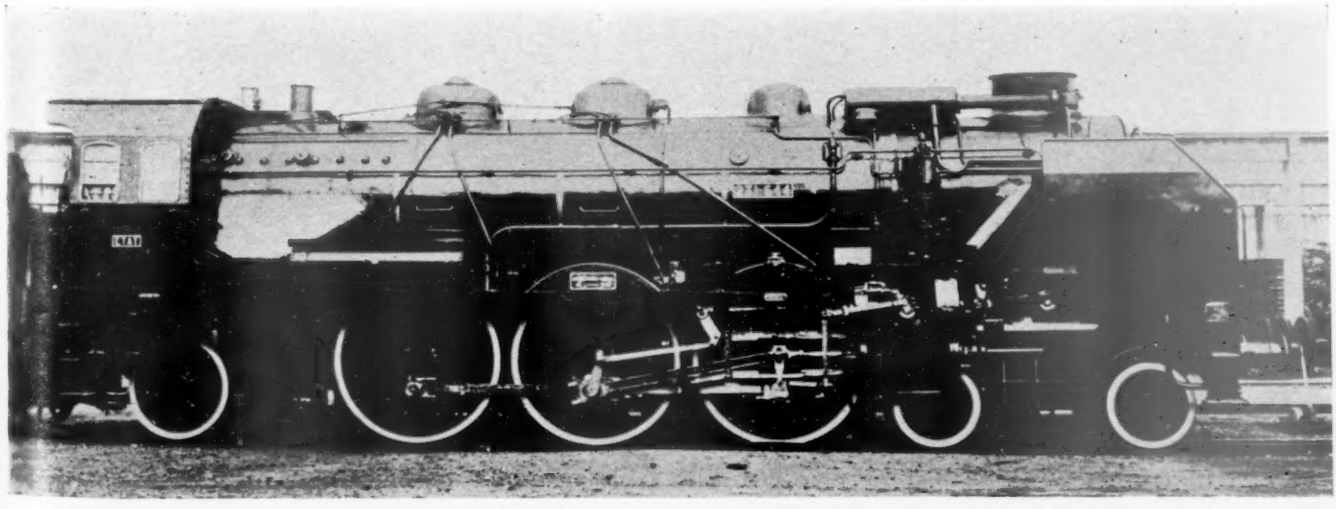
Two types of poppet-valve motion have been developed by Dabeg. These are the oscillating-cam type and the rotating-cam type. The oscillating cam is driven by a conventional type of slide-valve motion. With both types of drive two valves are required for each end of the cylinders—an inlet valve and an exhaust valve. With the oscillating-cam gear the motions of the two valves are not independent each from the other, and the valve events have the same fixed angular relationships to each other as is the case with piston valves driven by the Walschaert gear. With the rotating-cam gear, however, the motion of the admission valve, which controls admission and cut-off, and that of the exhaust valve, which controls release and compression, are independent of each other, so that early cut-offs can be utilized without adversely affecting the points of release and compression.

The service given by poppet valves both in England and in France has clearly demonstrated their value. Such difficulties as have been encountered have largely been in the development of entirely satisfactory operating mechanisms. In France, the oscillating-cam type of drive, provided by the conventional Walschaert or inside link gears, has been generally employed, although there are some installations of the rotating-cam type. This is because most of the applications have been on compound locomotives, for the low-pressure cylinders in some cases and for both high-pressure and low-pressure cylinders in others.

Neither the high-pressure nor the low-pressure cylinders ever require cut-offs shorter than 30 per cent, and the exhaust-valve events are still reasonably satisfactory at cut-offs no shorter than that.

The French developments have been proceeding rapidly since the success of the first Paris-Orleans conversion.

* For a description of the alterations of this locomotive and the test results obtained following its conversion, see the *Railway Age* for June 30, 1932, page 205.



A French State Railway Compound Pacific Type Passenger Locomotive Equipped with Oscillating-Cam-Driven Poppet Valves—The High-Pressure Cylinders Are 16.5 In. by 25.6 In.; the Low-Pressure Cylinders, 25.2 In. by 25.6 In.—The Boiler Pressure Is 228 Lb. per. Sq. In.

In these developments, however, the poppet valve has been associated with so many other changes in design, including both the boiler and steam passages, that the full influence of the poppet valves themselves is not clear. The general results of the alterations of this locomotive were an increase of 50 per cent in hauling capacity, a decrease of from 10 to 25 per cent in water consumption, and a coal consumption of 2.7 lb. per drawbar-horsepower-hour. These results, particularly pronounced for compound engines, were due to the high superheat (total steam temperatures of 750 deg. at a boiler pressure of 227 lb.), the large areas of the steam passages, and to the free flow through a well-designed exhaust. It should be pointed out, however, that it was the possibilities offered by the poppet valve that allowed the practical application of these other essential improvements.

In the tests on the London & North Eastern in England, however, following the applications made between 1923 and 1928, the comparisons are between poppet-valve and piston-valve performance without the confusion of other variables. In the case of an 0-6-0 type locomotive, mileages between shoppings were increased from 46,642 to 64,410 on the poppet-valve engines. Similarly, on a class of 4-6-0 type, of which some 16 in all were converted, the increase in mileage between shoppings was from 57,657 to 68,386. The coal consumption per locomotive-mile on the 0-6-0 locomotives was reduced from 67.7 for the piston-valve locomotive to 58.5 lb. for the poppet-valve locomotives. For the 4-6-0 type, the improvement was also definite, the reduction being from 55.5 lb. per locomotive-mile to 53.7 lb. There was also a marked reduction in the pints of valve oil per 100 locomotive-miles, from 8.24 to 6.57 for the 0-6-0 type, and from 9.63 to 8.42 for the 4-6-0 type. Generally speaking, the lightness of the valves has also effected a marked reduction in the stresses to which the valve motion is subjected at high speeds and so tends to reduce valve-gear maintenance.

Up to December, 1938, 1,112 locomotives on 34 railroads had been equipped with the poppet valves by the Dabeg Company in France and Associated Locomotive Equipment, Ltd., in England, 749 with the oscillating-cam type and 363 with the rotating-cam type of drive. These gears were applied on locomotives for use in England, in the British colonies, the Dutch colonies, France, Belgium, and Spain. Poppet valves (Lentz patents) have also been applied extensively to locomotives in Austria and Central Europe.

One gear of the oscillating-cam type and one of the rotating-cam type have also been applied on the Delaware & Hudson in this country. Test results of these locomotives in high-speed operation are not available. The oscillating-cam gear was applied by the Dabeg Company to engine 651 in 1929 and the rotating-cam gear to engine 653 in 1934, and both types are still in service.

"Railroads at Work" at the Fair

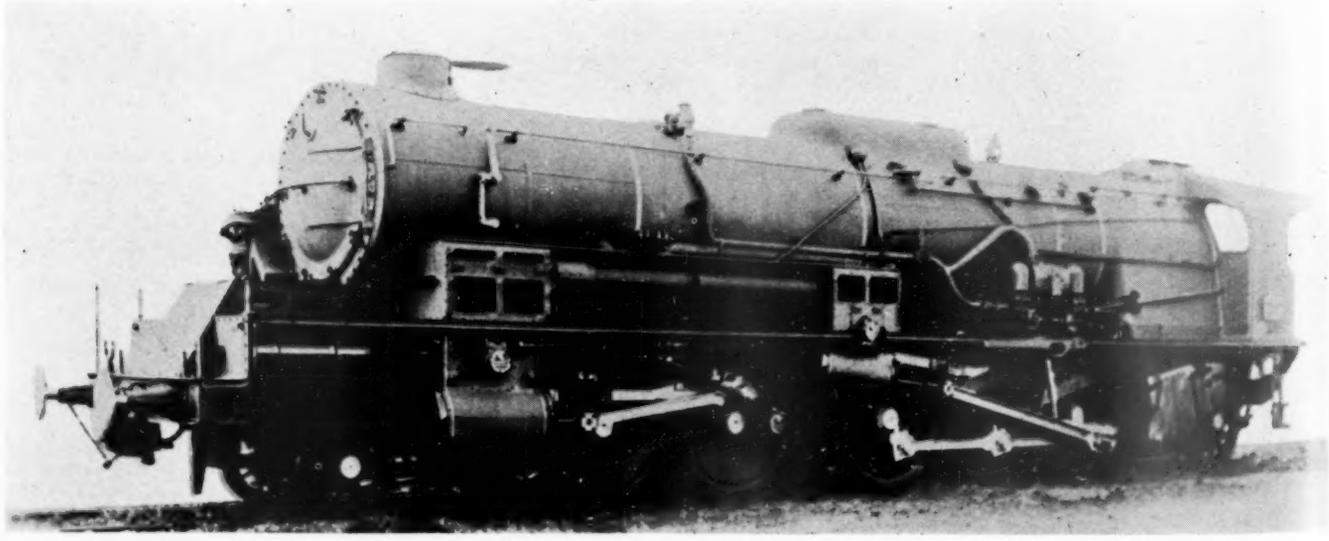
(*Continued from page 906*)

tracks may be stopped at interlockings by towermen by simply setting a "propulsion" switch for the particular section in the "off" position. The control equipment for the diorama, including cabinets, relays and power equipment, were designed and manufactured jointly by the Union Switch & Signal Company and the General Railway Signal Company.

The model railroad is of the 2-rail type, continuously fed, one running rail carrying the positive and the other the return current. Line power is furnished by a bank of 28 storage cells trickle-charged by copper-oxide rectifiers from a 110-volt a. c. power source. Of these cells, 2 furnish power for track circuits, 13 produce signal current and 13 furnish propulsion current. Interior lights of cars are fed by tiny 6-amp.-hr. storage batteries designed specially by the Electric Storage Battery Company, located in the baggage cars of each train. These are charged daily. Locomotive headlights and caboose markers are connected to dry cells. Lights are turned on and off through small mercury switches located on the rolling-stock. The power requirement of the whole diorama is about 100 kilowatts.

Other interesting operating features of the diorama include the use of punks to produce a steam effect on the locomotives, installation of a tiny flash boiler to produce steam for the model engine house and industrial plants and operation of the car-ferry by a cable-and-drum over a hidden track which permits the boat to be turned mid-stream and reversed.

"Railroads at Work" is staffed by 23 employees. Some 50 contractors contributed to its building. Paul Penhune, railroad engineer, is the designer and director.



A Paris-Lyons & Mediterranean Four-Cylinder Compound Freight Locomotive with Rotating-Cam Type Poppet Valves—The High-Pressure Cylinders Are 18.9 In. by 25.6 In.; the Low-Pressure Cylinders, 29.3 In. by 27.6 In.—The Boiler Pressure Is 284 Lb. per Sq. In.

One of the Burlington's Comfortable Motor Coaches and a New Diesel Truck

How Burlington is Co-Ordinating Rail and Highway Service

Highway system built up to aid in competing with other bus and truck routes

By H. C. Murphy

Assistant to Vice President, Chicago, Burlington & Quincy

TODAY 64 American railroads operate more than 5,200 buses over approximately 50,000 route miles, while 53,000 trucks are operated by railroads in terminal transfer, inter-city and store-door delivery service. The Burlington is one of many railroads which make use of highway vehicles.

In 1929 the Burlington Transportation Company, wholly-owned and controlled by the Chicago, Burlington & Quincy was incorporated in Illinois. From that time until 1935 it confined its activities to bus transportation, gradually expanding from a few hundred miles in Illinois, Iowa and Nebraska to a system which today covers about 6,700 miles of routes in 12 states, over which daily bus service is provided between Chicago and the Pacific Coast, with numerous branches. In 1935 a number of common carrier truck lines were acquired. Later acquisitions and the establishment of additional routes increased the total truck route mileage to about 2,500. In general, the bus and truck divisions handle both interstate and intrastate traffic. The Chicago, Burlington & Quincy and the Burlington Transportation Company together provide all of three types of service, all-rail, all-highway, and combined rail-highway. While theoretically it is possible for a railroad to perform a rail-truck or rail-bus service through arrangement with independent bus and truck lines, it is our experience and observation that such co-ordination is much less efficient and satisfactory than that rendered possible by a combination of transportation agencies under common ownership.

The Burlington inaugurated its freight and passenger highway operations solely for the purpose of improving its service and retrieving some of its business that had been lost to trucks and buses. This has been accomplished in several different ways. Prior to the entrance of the Burlington into the bus transportation field, an independent bus line operated between Peoria and Galesburg, Ill., over a route following the Burlington railroad closely. The bus schedules, for the most part, were substantially the same as those of the trains. The Burlington acquired the independent bus line and arranged a staggered service throughout the day, so that while there are about the same number of bus and rail schedules as formerly, the public convenience is far better served by the equidistant departures from both terminals and the intermediate communities. Another feature which obtains all over the system is the interchangeability of bus and rail tickets, so that a passenger may buy a round-trip railroad ticket and, going or returning, use the particular schedule, rail or bus, which best suits his needs. There are numerous other territories where similar improvement of service has been effected.

A second major result of rail-bus co-ordination is the higher speed of through passenger trains made possible by the elimination of stops at intermediate points now served by bus. So far as possible, bus schedules are fixed with this purpose in mind. Generally speaking, the public prefers the bus to the local train and patronizes it more freely.

With respect to trucks, the principal type of co-ordination, as practiced on the Burlington, is along these lines: Merchandise moves from Chicago, for example, to a division point by freight car. In general, this main line train service is speedy and frequent. In the past, however, particularly during recent years, that part of the traffic destined to branch line points has encountered serious delay. This was due to the fact that it has not been feasible to maintain daily way freight service over all the branch lines and to the disproportionate amount of

time consumed by terminal transfer. By unloading this freight at the transfer point onto a highway semi-trailer spotted at the freighthouse for that purpose and moving it promptly to destination, the branch line consignee in the small communities now receives his freight by truck about as soon as the consignee situated on the main line. In many cases the gain to the consignee is as much as 24 hours, and in a few cases 48 hours. Comparable time saving is also effected in connection with traffic originating at these branch line points. In that case the truck moves the traffic from the branch line point of origin to the rail interchange point. This is of distinct benefit to the small town merchant and his customers, as well as to the jobber and manufacturer in Chicago and other jobbing and producing points.

In addition to this marked improvement in less-carload service, the arrangement makes it possible to provide considerably better service on carload freight, since the way freight train, which now normally consists almost entirely of carload traffic, is not delayed at intermediate stations by the necessity of handling the less-carload traffic. From the standpoint of economy, the experience of the Burlington is that the chief saving is in car miles rather than train miles. That is to say, we have not found it expedient to discontinue way freight trains, but we have decreased the number of cars in these trains and by expediting their movement, shortened the terminal-to-terminal running time, at the same time releasing box cars for other service. Thus there are two major accomplishments to be attributed to rail-truck co-ordination: First—and the more important—much better service, and second, substantial economies.

Taking three typical branch lines radiating from the main line and two segments of the main line over which this same arrangement is in effect, designated for convenience as routes A, B, C, D and E, the Burlington's records show that on route A there is a saving of one hour in way freight time daily except Sunday, and 672 car miles per week. On route B there is a saving of two hours way freight time per day and 2,171 car miles per week. On route C there is a saving of 1,336 car miles per week. On route D there is a saving of 30 min. way freight time a day, with no car mile saving on this route because the highway does not reach all the communities reached by the railroad. On route E there is a saving in way freight time of 30 min. per day and at the present time because of operating handicaps no car mile saving. The total time saving on these five routes is five hours per day, or 30 hours per week, and 4,179 car miles per week. In addition there is a saving of 72 car days per week. That is to say, freight cars formerly devoted to that service are to that extent freed for other use. The average length of the five routes just mentioned is approximately 80 miles. The Burlington has not yet achieved anything like maximum effectiveness in the co-ordination of rail and truck service. It is the subject of constant study and much more development is possible.

A further way in which the common ownership and operation of rail and truck can in certain circumstances be utilized to increase efficiency is based upon the balance of traffic factor. On the Burlington there is a heavy movement of empty refrigerator cars westbound. The truck traffic being predominantly westbound, there is a considerable lightly loaded or empty truck movement eastbound so far as straight truck traffic is concerned. By loading eastbound rail freight into these otherwise empty or partially empty trucks, a much better traffic balance is obtained.

Another type of traffic which can be expedited in some instances is the United States mail and express. The curtailment of branch line passenger service and the abandonment of many branch lines throughout the country has presented a problem to the Post Office Department. The Burlington Transportation Company handles a considerable amount of mail in its buses, most of which moves also by rail. It is believed that as time goes on a greater volume of mail will move in this manner wherever rail owned trucks can supply the supplementary service. At least one western railroad has instituted highway service designed primarily to transport mail.

While the Burlington Transportation Company has its own freight and passenger terminals in Chicago, in many places it utilizes rail stations and rail freighthouses. So far as the latter use is concerned, it enables the carrier to provide freighthouse facilities in small communities which the independent truck operator could not afford to provide. It enables the railroad to keep small freighthouses open which might otherwise be closed, to the benefit of the public and employees, and it permits a more nearly complete utilization of existing freighthouse facilities than would be possible if only rail freight were handled there. The Burlington Transportation Company pays the railroad for the use of these facilities upon the same basis that any other user would pay. The road derives a fairly substantial total revenue from this source.

Until Congress acted in 1935, interstate transportation by bus and truck was largely unregulated. This unquestionably greatly aggravated the troubles of the railroads. In October of that year a fairly complete regulatory code went into effect, under which the Interstate Commerce Commission took jurisdiction of motor vehicles. The Commission was confronted with a huge task, the magnitude of which is shown by the fact that more than 90,000 applications for certificates and permits were filed during the first year. By now the Commission, through its Bureau of Motor Carriers, has the situation relatively well under control but, since the great majority of motor carriers are very small companies, it is apparent that it will be a long time before they can be regulated in the same manner and to the same degree as the railroads, of which there are fewer than 800 operating companies and which, for the most part, are much larger and better organized than the motor carriers.

Bearing in mind the serious situation with which the railroads are confronted and the absolute necessity of eliminating waste and effecting all possible economies, we believe that the highway vehicle, operated in conjunction with the railroad, affords a major opportunity. Among other important western railroads which in one way or another conduct extensive highway operations are the Rock Island, the Santa Fe, the Southern Pacific, the Union Pacific, the North Western, the Cotton Belt, the Missouri Pacific, the Northern Pacific, the Great Northern, the Kansas City Southern, and the D. & R. G. W. Their methods vary greatly. In some cases trucks are used almost wholly for the transportation of rail freight. With the Burlington and some of the others, the trucks and buses function in the dual capacity of transporting strictly highway traffic and also traffic which moves in part by rail. Apparently the trucks and buses have become a permanent part of the American transportation scheme. Ultimately each of the several agencies will function in the field where it is best suited. It will be a considerable time before the exact limitations applicable to each of these agencies are clearly recognized. In the meantime, it is probable that, so far as the law will permit, the railroads will expand and improve their highway operations and the Burlington is convinced that this will react favorably upon the railroads themselves and will provide a service to the public which neither the railroad nor the highway carrier, acting independently of one another, could provide.

Compulsory Pooling Out of S.2009

Provisions giving I. C. C. power to require distribution of revenues from general rate increases and joint handling of l. c. l. eliminated

WASHINGTON, D. C.

On Thursday, Chairman Bailey of the Committee on Commerce stated that he would not make his previously announced motion to refer S.2009 to his committee. Instead, he proposed an amendment to exempt all water transportation, except joint rail-water rates, from regulation by the Interstate Commerce Commission. That motion was under discussion as this issue went to press.

EFFORTS of Chairman Bailey of the committee on commerce to have the measure referred to that committee comprised the only hurdle remaining when the Senate recessed on May 24 to a vote on S.2009, the Wheeler-Truman "key bill" without the provisions giving the Interstate Commerce Commission authority to require pooling of revenues derived from general rate increases and the handling of all l. c. l. traffic through a joint railroad-owned agency or agencies. Retained, however, were the provisions of the so-called through routes bill which would give the I. C. C. power to establish through routes and joint rates without reference to the short-hauling of any carrier.

Favorable action on the measure was expected on May 25 if the effort to send it to the committee on commerce failed. In support of his move in the latter connection Senator Bailey pointed out that the principal feature of the bill was the regulation of water carriers, and he argued that such matters had always been referred to the commerce committee. He submitted a statement given to him by Chairman Land of the Maritime Commission, who favored continuing the existing set-up pending further study. Mr. Bailey disclaimed any intention of pigeon-holing S.2009; he suggested that it might be referred to his committee with instructions to report back within 10 days.

As pointed out in the *Railway Age* issues of May 13 and May 20, the above-mentioned provisions for compulsory pooling of revenue from general rate increases and joint handling of l. c. l. were not in the bill as introduced, but were inserted as committee amendments in the measure as reported favorably by the committee on interstate and foreign commerce. They were passed over when so-called non-controversial committee amendments were adopted in rapid fashion on May 23. On the following day, after adoption of the through-routes provisions, which had also been passed over at the previous session, Senator Wheeler asked that the revenue pooling and l. c. l. amendments be rejected. He pointed out that the subjects were not considered at the public hearings on the bill, and thus the interstate commerce committee upon reconsideration had decided that Congress should not act without more information. Meanwhile, he added, the committee is going to give study to the question of regulating forwarders, but it does not feel that it should go so far as to require the railroads to set up a corporation to supplant such agencies.

There was considerable talk by Senators Norris, Progressive of Nebraska, and Clark, Democrat of Missouri, about alleged discriminations practiced by forwarders. In all of this Senator Reed, Republican of Kansas, who said he was responsible for the proposed l. c. l. amendment, concurred. He thinks the forwarding companies are "a parasite on railroad transportation in this country," and he hopes it will be possible to eliminate them and put their profits back into the railroad treasuries.

Aside from the committee amendments, Chairman Wheeler accepted an amendment offered by Senator Brown, Democrat of Michigan, which would provide specific exemption for contract carriers by water of commodities in bulk on the Great Lakes whose vessels compete with carriers of a foreign country. The chairman also accepted in part an amendment to the rate-making rule offered by Senator Miller, Democrat of Arkansas, The amendment added a sentence reading as follows: "In order that the public at large may enjoy the benefit and economy afforded by each type of transportation, the commission shall permit each type of carrier or carriers to reduce rates so long as such rates maintain a compensatory return to the carrier or carriers after taking into consideration overhead and all other elements entering into the cost to the carrier or carriers for the service rendered." Curbstone opinions on the foregoing just after its adoption were to the effect that it would preclude the making of competitive rates on an out-of-pocket basis, although the remainder of the Miller amendment, which was rejected by Senator Wheeler, carried a specific prohibition against the making of competitive rates which would be non-compensatory as measured by the foregoing standard.

Ashurst "Safeguards" Long-and-Short-Haul Clause

Another amendment agreed to by Senator Wheeler was that offered by Senator Ashurst, Democrat of Arizona, to restore to the long-and-short-haul clause (section 50) that provision whereby a railroad which cuts a rate to meet water competition is thereafter precluded from increasing that rate unless the I. C. C. finds that the proposed change rests upon altered conditions other than the elimination of water competition. The long-and-short-haul clause in S.2009 applies to all agencies, and the committee eliminated this part of it along with a similar paragraph applying to water carriers which was in the bill as introduced. The Ashurst amendment restores only the one relating to railroads. Another amendment was that offered by Senator Austin, Republican of Vermont, to provide that not more than two members of the three-man board of investigation and research to be appointed by the President under the terms of S.2009's section 53 shall be of the same political party.

Debate opened on May 22 when Chairman Wheeler obtained unanimous consent to have the reading dispensed with, and proceeded to explain the bill. He told how it had been drafted in the light of the reports of President Roosevelt's two railroad committees—the Splawn-Eastman-Mahaffie Committee and the Committee-of-Six—adding with respect to the latter that the

President had "asked me to work out and introduce legislation to carry out the provisions of the report."

Highway Carriers "Have No Objections"

Discussing the committee hearings and executive sessions, the Montanan revealed that the "bus and truck people" who complained about certain provisions had that day notified him through their organizations "that they have no objections to this measure." In this connection it is understood that American Trucking Associations hope to have the bill amended, but will propose such changes in the House. Continuing Senator Wheeler believed it safe to say that "domestic common carriers by water, other than those who are industrial affiliates, or in some way subsidized, favor the regulation of water carriers." All the bill seeks to do, the chairman explained, "is to regulate all forms of transportation in exactly the same way." He continued to ask if, as seems to be the fact, the country is committed to regulation of rail and highway carriers, "what excuse can there be for not regulating competing forms of transportation?"

In assuring Senator Davis, Republican of Pennsylvania, that the bill did not undertake to regulate private carriers on the waterways, Chairman Wheeler went on to express the view that Congress could not regulate private transportation, "much as we may think it should be regulated." Senator Reed, Republican of Kansas, did not fully concur, saying that he thinks the time may come when Congress shall have to regulate private transportation of property "when it is transported for commercial purposes." The chairman recalled that the Kansan had made the same statement before the committee, and added a tribute to Mr. Reed as one who "thoroughly understands the rate-making problems and the problems of transportation . . . because of his wide experience in handling such matters before he came to the Senate."

Waterways Don't Benefit Consumers

Resuming his general remarks Mr. Wheeler challenged anyone to say that it is not "fair and just" that water carriers should submit to rate regulation when the government furnishes them "with the means to carry on their transportation." "The claim is made," he went on, "that the consuming public gets the benefit of the channels we have made in the rivers . . . The fact of the matter is that when the oil companies, the steel companies, or any of the rest of them ship their products by water they receive a benefit, but the consuming public does not get one five-cent piece benefit out of it. As a matter of fact when the companies ship oil or steel on the Mississippi river they charge the railroad rate from Pittsburgh to the particular point, whether the commodity is shipped by water or whether it is shipped in any other way."

Up spoke Senator Shipstead, Farmer-Laborite of Minnesota, who comprised a one-man minority of the committee on interstate commerce with a report opposing passage of S.2009 as a bill, the "whole purpose" of which "is to protect the holders of railroad securities." The Minnesotan contended that the question was one of price-fixing by monopolies, and Congress should deal with it on that basis. Senator Wheeler did not agree that such was entirely the case, as he proceeded to call attention to the fact that "we stood on the floor of the Senate and argued that deepening and widening the channel of the Mississippi river and the Ohio river should render a great service to the consuming public."

"We have," he added, "taken money out of the pockets of the railroads to build these channels, and have taken the traffic away from the railroads and turned it over to the shippers of oil, steel, lumber, cement, and other products. I submit that when the shippers receive a benefit from such a project, as they have been doing, they ought to pay something toward the building and maintenance of the channels. In other words when we take money and put it in their pockets, and they do not pass on the saving, there ought to be some provision for the government to charge tolls, so that the government may get back some of the money expended."

Shipstead Wants No Tolls on Big Business

Later in another exchange with Senator Shipstead on the same subject, Senator Wheeler asked if the Farmer-Laborite were not opposed to putting tolls on the waterways. Getting an affirmative reply the Montanan went on to point out that the oil companies, the steel companies, and the cement companies—"the ones the senator is condemning"—are yet the ones upon whom Mr. Shipstead does not want a toll imposed. The Farmer-Laborite insisted again that the matter was one of price-fixing, not of transportation; and he added that it is not fair to talk about Mississippi river traffic when the channel improvements remain incomplete. Senator Wheeler came back to say that the channel Senator Shipstead was asking for would enable the steel and oil companies to transport more of their tonnage by water without having to pay back "a cent" to the government.

Senator Miller asked if there were any reason why waterway traffic should not bear a tonnage tax. Senator Wheeler thought there should be some such charge but explained that the matters is not one which comes before the committee on interstate commerce. He added that the putting of more money into the pockets "of the great monopolies and trusts" would be the "only accomplishment" of a bill "for deepening and widening every little river with the idea that someday in the United States we shall establish a great transportation system . . . we can take money out of the Treasury and widen and deepen every creek that runs into the Mississippi river, and yet we will never have any water transportation to speak of."

Meanwhile Senator Wheeler had assured Senator Norris, Progressive of Nebraska, that nothing in the bill would deprive a shipper on the waterways of the "inherent advantages" of water transport; and he told Minority Leader McNary, who read a "where-is-the-demand" passage from Senator Shipstead's minority report, that the water carriers themselves asked for regulation. Also, Mr. Wheeler told the senator from Oregon that the Maritime Commission is in an "untenable" position as a regulator of water transport, because of its functions in connection with the promotion of water transport, the granting of subsidies and the operating of ships. And he added that if the water-carrier provisions of S.2009 are not enacted, "the only fair alternative is to repeal the fourth section entirely and turn the railroads loose . . . and then see where the water carriers would be."

In response to questions from Senator Norris, Mr. Wheeler expressed the opinion that enactment of the bill would stabilize conditions in the water transport industry. He added that he could not "stand on the floor of the Senate and say that the Congress should regulate the railroads and regulate their rates and then turn their competitors loose, particularly when money is being taken out of the Treasury of the United States, which is put there partly by the railroads, to help build the waterways on which the water carriers may operate." Mr. Norris agreed. "Conscientiously," he said, "I cannot

defend a refusal to regulate transportation on the rivers so long as I insist on the regulation of transportation that competes with them, even though my prejudice might be all the other way because of the experience we have gone through in the recent past."

Wheeler Denies President is Representing Railroads

Senator Lucas, Democrat of Illinois, broke in to tell how as chairman of the Illinois Tax Commission he had learned of the importance to communities of taxes paid by railroads; and to observe that most of the abuses charged against the railroads happened prior to the time of regulation. Senator Wheeler agreed, and proceeded to another exchange with Senator Shipstead during the course of which the Montanan said that in his opinion the bill would not put any money into the pockets of the railroads—it will stop some practices which have militated against a coordinated national transportation system. He went on to suggest that any assertion that the public does not want regulation of water carriers "is to say that the President of the United States is representing the railroads, and I say that he is not." In so far as he is concerned, Senator Wheeler trusts the I. C. C. as much as he trusts Congress, and he thinks that any criticism of I. C. C. activities should be directed against Congress which passed the law under which the commission has operated "honestly and efficiently."

Later the chairman of the interstate commerce committee told Senator Borah, Republican of Idaho, that the railroads did not ask for the bill—they came and asked for repeal of the fourth section, which Senator Wheeler opposed but said he would favor regulation to put rail and water carriers on an equal footing. He added that he doesn't know whether or not regulation is the right thing, but he does insist that "we cannot let one group be regulated and another group not be regulated." Senator Borah asked further questions about legislation to deal with "overcapitalization of the railroads," and drew from Senator Wheeler the statement that the latter "certainly" hopes to pass such a measure at this session.

Amidst another discussion on the "demand" for regulation of water carriers, Senator Norris broke in to observe that the public ought to be behind the legislation. He wondered if it were possible that members of the Senate believed that water carriers "are devoid of the same selfishness that caused railroads to take advantage of" situations for their own benefit. He asked: "Are men shipping cargoes on the rivers the only set of men in the country who do not have the taint of human selfishness which exists in the breasts of all other men? Will they not do the same thing as other men if they have an opportunity? And how are they to be hurt if, even in advance of complaint, we pass a law providing for regulation that is honest and just?" Chairman Wheeler thought the foregoing position was "exactly correct," in which connection he later said that he had never seen "selfishness on the part of different groups in the same industry come to the surface any more than when this legislation came before our committee."

Wheeler Only Seeking to Carry Out President's Recommendations

At this point the Montanan also expressed opposition to the idea of sending the bill to the committee on commerce. That committee, he said, "would have exactly the same pressure that has been put upon us for three months, and it would be a physical impossibility for them to get the bill out of the committee in less than a month or two months." He went on to say that it was O. K. by him if the Senate wanted to "emasculate the bill," because he has no interest in the legislation other than to carry out "what the President of the United States has repeatedly said ought to be done and what the Interstate Commerce Commission have said ought to be done with reference to the water carriers, and what the committee-of-six have said ought to be done with reference to the water carriers."

The remainder of the first day's debate was devoted largely to discussions of the provisions directing the I. C. C. to investigate interterritorial rates and of the subsequently-rejected provision giving the I. C. C. authority to require a pooling of revenues from general rate increases. At the suggestion of Senator Hill, Democrat of Alabama, the interterritorial rate provision was altered slightly to include language desired by Senator Connally, Democrat of Texas. The latter also wanted to know if there were anything in the bill which would give the I. C. C. authority over the equipment companies. Senator Wheeler told him that the committee investigating railroad finances heard a great many rumors to the effect that some of the equipment companies were "milking the railroads;" but the committee's investigators were not able to put their fingers on any specific thing of that kind.

Meanwhile Senator Wheeler had called attention to the provision giving the I. C. C. a certain measure of authority over private car lines, and he went on to point out the amendment to the long-and-short haul clause which is designed to expedite procedures thereunder. Also, he referred briefly to the studies of the relative economy of various transport agencies and of government aids to transport to be made by the board appointed by the President.

The May 23 session's debate was devoted in the main to talks by Senators Reed and Truman, Democrat of Missouri, co-sponsor of the bill with Senator Wheeler. Senator Reed argued for the pooling provisions which were rejected the following day, as noted above. Senator Truman's address was an argument for passage of the bill which he called the first in a proposed series which he and Senator Wheeler think will inaugurate a transportation policy "for the welfare and benefit of the country." Also, on this day the so-called non-controversial committee amendments were read and adopted in rapid succession. These were the changes highlighted in the past two issues of *Railway Age* wherein the bill as reported and the committee's favorable report were reviewed.

On May 24 came the above-mentioned action on other amendments, and talks by Chairman Bailey of the committee on commerce and Senator Clark. The latter, who said at one point that he intended to vote against the bill, took occasion to give his opinion as to the transportation policy which should be pursued by the government. He thinks that all agencies must be brought together in an articulated whole—a transportation monopoly under stringent regulation.

"Multiple-Unit Plugs and Receptacles."—A 20-page bulletin numbered 1140-1, and called "Triploc and Multiple-Unit Plugs and Receptables" has been published by The Pyle-National Company, Chicago. The Triploc plugs and receptacles are designed for the operation of portable electrical equipment and include a wide variety of different types. Listed also are Triploc fuseless plug shells, fusible plug shells, receptacle housings and miscellaneous fittings. The multiple-unit plugs and receptacles designed for thermo-couple, sound equipment, remote control, lighting and motor wiring, allow a wide range of circuit combinations from 2 to 32 poles. Various types of housings and mountings for the multiple-unit plugs and receptacles are also listed.

NEWS

Eastman Attacks "Full Crew" Laws

Says "wasteful practices" of labor will determine the future of branch lines

Interstate Commerce Commissioner Joseph B. Eastman, in a concurring opinion written in the case of an abandonment by the Chicago, Milwaukee, St. Paul & Pacific, which is reviewed elsewhere in this issue, sharply criticized state "full crew" laws and agreements between the railroads and railroad labor organizations which require the employment of unnecessary labor in railroad operations. Mr. Eastman went on to say that "it may well be that this is not an isolated instance and that there are many other similar situations in Wisconsin and other states where, by reason of state laws or agreements with the labor organizations, wasteful practices are being carried on which will, if they persist, be the determining factor in the continuation of the operations which they affect."

After citing the provisions of the Wisconsin full crew law, Mr. Eastman asserted that "Whatever may be the merits of such laws as applied to the operations on lines of considerable traffic density, clearly they have no merit as applied to operations on a branch line like the one here under consideration, and result in payment for wholly useless labor. Trains such as the one which has been operated on this branch may possibly require a crew of three men, but certainly they do not require any larger crew from any point of view."

Commissioner Eastman began his concurring opinion by pointing out that "some things in the record of this case merit special discussion, because of their bearing on the general railroad situation." Only one train, he pointed out, is operated on this branch line, and until October 3, 1938, it made a round trip daily. Since that time it has made three such trips per week. An exhibit placed in the record showed that in the months of November, 1937, and February, May, and August, 1938, the number of cars hauled by the train in each direction varied from 21 to none and averaged slightly less than seven. Also, he pointed out, the laws of Wisconsin require five men on each train, regardless of size.

"Under the present conditions," the commissioner wrote, "when so much thought is being given to the 'solution of the railroad problem', matters like this ought not to be overlooked. Here the branch line is to be abandoned and all of the employment which it has heretofore provided for railroad labor is to be lost. Even if the Wisconsin law were changed so as not to require the employment of unnecessary labor in its operation, it is now probably too late to save the line by this means. That is to say, this wasteful practice is apparently not here a presently controlling factor. . . .

"I have thought it well to emphasize this matter, because I believe that there are many railroad branch-line operations throughout the country whose lives are hanging in the balance. Such operations have proved peculiarly susceptible to truck and bus competition, and in many instances their continued existence demands intensive attention to quality of service, for in that lies the great advantage of the motor carrier competitors. It is vital, if such needs are to be met, that train service be not burdened with wholly wasteful labor. In fact I would carry the thought further than the mere matter of branch lines and "full-crew" laws or agreements. Under present competitive conditions any practices which require unnecessary employment or pay that is disproportionate to service performed are bound, in the final analysis, to work to the disadvantage of the railroad employees themselves."

Mr. Eastman then quoted a portion of the President's Emergency Board report of October 29, 1938, to the effect that a "frank, candid inquiry" might be made by the management and men as to the equitable nature of the so-called "featherbed" rules.

Mr. Eastman also pointed out that the railroads, in considering the branch line problem, might well give close attention to new types of motive power "better adapted to economical, flexible, and convenient service than the steam locomotives now in use."

$43,591,000 Net Deficit for First Quarter

Class I railroads in the first three months of 1939 had a net deficit of $43,591,000 after fixed charges, the Association of American Railroads announced on May 19. For the first three months of 1938, Class I roads had a net deficit of $105,737,000 after fixed charges.

The March net deficit was $10,505,000, compared with a net deficit of $28,013,000 after fixed charges in March, 1938.

Ditch Dole Cut To $83,000,000

Pork barrel solons, sore as all get out, threaten to sabotage rail legislation

Seventy rivers and harbors projects with an estimated total cost of approximately $83,000,000 are authorized by the rivers and harbors bill (H. R. 6264) which was passed by the House of Representatives on May 18. Before approving the measure the House knocked out three of the four expensive projects, which, as noted in last week's issue, had been approved by the committee on rivers and harbors when it substituted H. R. 6264 for H. R. 5753, the rivers and harbors bill originally reported with authorizations totaling about $69,000,000.

The projects rejected by the House are: Umatilla Dam on Columbia River, $23,700,000; Tennessee-Tombigbee waterway, $12,500,000; and Connecticut river between Hartford, Conn., and Holyoke, Mass., $12,344,000. The latter was not in H. R. 6264 as reported, but was offered as a committee amendment to the bill. This amendment was rejected, while other amendments offered by Representative Dondero, Republican of Michigan, eliminated the Umatilla and Tombigbee projects.

There was considerable debate on the bill at the House's May 17 session, during the course of which Representative Rankin, Democrat of Mississippi, interrupted Representative Culkin's (Republican, New York) tribute to the Army engineers with a reference to "a great many stereotyped telegrams and messages sent in about railroad labor." Mr. Rankin wanted to know if it were not brought out before the committee "that no railroad laborers were ever put out of business because of the development of river transportation." The New Yorker replied that the gentleman from Mississippi was right, adding that "the suggestion that railroad labor is affected by water transportation is absurd." He went on to assert his ability to demonstrate without doubt that the railroads have been among the main beneficiaries of water transportation.

But Representative Miller, Republican of Connecticut, wanted to know if the gentleman from New York regarded as "stereotyped letters" 18 telegrams from railroad labor organizations, "individually signed, three being members of the big four." Mr. Culkin regarded them as "part of the pressure that this House will hear from

(*Continued on page 927*)

R. R. Claim Agents Mark 50th Year

Hold 50th annual convention in Memphis; discuss technicalities of settlements

The fiftieth annual convention of the Association of Railway Claim Agents was held at Memphis, Tenn., on May 17 to 19, with President J. C. Stineman, chief claim agent of the New York Central presiding. While no special effort was made to commemorate the golden anniversary of the association, time was taken for a review of the progress and expansion made by the association since its birth. H. L. Dunham, general claim agent of the Chesapeake & Ohio, in an address, Our Association—Fifty Years of Expanding Service, showed how representatives of 15 railroads, at a meeting in Kansas City, Mo., on June 3, 1890, organized the association and started the work which has been of great benefit to the railroad industry.

Officers elected for the ensuing year are president, George B. Patton, claim agent of the Chicago, Indianapolis & Louisville; vice-presidents, P. J. Cronin, chief claim agent of the Pennsylvania; E. W. Sprague, general claim agent of the Illinois Central and C. W. Krohl, general adjuster of the Chicago, Burlington & Quincy; and secretary-treasurer (reelected), F. L. Johnson, claim agent of the Alton. Providence, R. I. was selected as the place for the next annual meeting.

Subjects discussed at the meeting dealt with the technicalities of claim settlements. In a paper on Finding Suitable Employment for Seriously Injured Employees Unable to Resume their Former Occupation, A. B. Dickey, general claim agent and supervisor of personnel of the Chicago & Western Indiana and the Belt Railway Company of Chicago favored the protection of incapacitated employees but without jeopardizing the interests of the company. "In providing employment for injured employees," he said, "it should be borne in mind that no carrier will enter into an agreement wherein a lifetime job is promised or guaranteed, and that in any case where an injured employee is allowed to return to work, such permission is granted with the stipulation that the same service must be performed by him as would be required of any able bodied man; and, further, that any disregard of company rules under such circumstances will subject him to discipline commensurate with the violation." Individual railroads, he continued, have different working agreements with the various crafts but, generally speaking, there is no provision in any of these contracts which provides for the protection of a man who has become incapacitated from either injury or illness.

Other topics discussed were The Grade Crossing Problem, from the Claim Department's Standpoint, by H. A. Rowe, manager of the claims department of the Delaware, Lackawanna and Western; Thorough Investigations by J. F. Cox, general claim agent of the Union Pacific; Release of Joint Tort Feasor as a Bar to the Right of Action Against Others, by E. P. Russell, solicitor for Tennessee and Mississippi, St. Louis-San Francisco; How to Handle Cases Where an Insurance or Finance Company is Involved, by W. E. Davison, district claim agent of the Missouri Pacific; and Policy in Handling Claims of Passengers Falling on Trains or in Stations, by C. H. Schutte, assistant general claim agent of the Missouri-Kansas-Texas.

Round-Trip Coach Fares to Be Cut 10 Per Cent in Southeast

Railroads in southeastern territory expect to file tariffs shortly providing round-trip coach fares within the area based on 90 per cent of double the present one-way basic fare of 1½ cents per mile, effective June 1. The new round-trip fare in effect is a 10 per cent reduction under the basic rate. It has a time limit of 30 days and applies to all points of origin or destination in the territory.

President Unaware of Proposal for Stabilization-Fund Rail Loans

President Roosevelt said at his May 19 press conference that he had heard of no plan to take $1,500,000,000 from the Treasury's stabilization fund for equipment and improvement loans to railroads and other industries. Asked if there were any other loan plan under consideration, the President replied that he wouldn't say there was any definite plan, although the subject has been under discussion for some time.

Freight Trains in Unusual Derailment

Three freight trains were involved in an unusual derailment on the Pennsylvania at Bradford, Ohio, on May 21 in which three trainmen were killed and four others injured. One train stopped to take coal. The second collided with the rear of the first, and its locomotive and cars were scattered over both tracks. The third train, a fast fruit enroute from Chicago to New York, with orders to pass both slow trains at high speed, collided with the derailed equipment of the other trains and was derailed.

"Silver Meteor" Service Doubled to Florida Coasts

"Silver Meteor" service will be provided every three days to both coasts of Florida by the Seaboard Air Line, effective June 6. Whereas the all-coach train formerly alternated between the coasts, providing service to each every six days, it will now be operated in two sections south of Wildwood, Fla., where the main line divides. At the latter point, two cars will be cut from the regular consist, combined with several additional light-weight cars and operated to St. Petersburg, while the remainder of the equipment will proceed to Miami.

Lewis Named to Mediation Board

President Roosevelt nominates former congressman to succeed Dr. Leiserson

President Roosevelt on May 24 sent to the Senate the nomination of David J. Lewis for a place on the National Mediation Board, thus following through on his previously-announced plan to name the former congressman from Maryland to succeed Dr. William M. Leiserson, who has been transferred to the National Labor Relations Board. Dr. Leiserson's appointment to N. L. R. B. was confirmed by the Senate on May 19.

Mr. Lewis, who gets a term expiring in February, 1940, was the New Deal's Maryland senatorial candidate in last fall's unsuccessful attempt to "purge" Senator Tydings. He was born in Center County, Pa., on May 1, 1869, and at the age of nine years he went to work in a coal mine where he was employed until he was 23 years old. Meanwhile Mr. Lewis had studied law, being admitted to the Maryland bar and launching his practice at Cumberland, Md., in 1892. He served in the Maryland senate from 1902 to 1904, and in Congress from 1911 to 1917. Defeated for the Senate in 1916, Mr. Lewis was appointed by President Wilson to membership on the United States Tariff Commission where he served from 1917 to 1925. He returned to the House with his election to the Seventy-second Congress in 1930, and served thereafter continuously until he made his unsuccessful bid for the Senate nomination in last fall's Maryland Democratic primaries.

Harris & Ewing

David Lewis

Treasury Officers Annual Meeting

The annual meeting of the Treasury Division, Association of American Railroads, will be held at the Hotel Pennsylvania, New York, on September 21 and

22. J. A. Simpson, treasurer of the Southern Pacific, with headquarters at New York, has been appointed chairman of the committee on arrangements for this meeting. Meetings of the Advisory, Sectional Coordinating and possibly other committees of the Division will be held September 20, the day preceding the convention.

Railway Magazine Editors Will Meet in Chicago

The spring meeting of the American Railway Magazine Editors' Association will be held on Saturday, June 10, at the LaSalle Hotel, Chicago.

New "400" to be Placed in Service in August

New equipment for the "400," operated by the Chicago & North Western between Chicago and the Twin Cities, will be placed in service in August.

Club Meetings

The Committee on Railroad Support will hold its final meeting of the season on June 2 in room 808, Pennsylvania station, New York. Consideration will be given at this time to a program for the coming year.

Kansas City Southern Considering Airline Service

The Kansas City Southern is making a study to determine the feasibility of establishing its own air service for passengers, mail and express between Kansas City, Mo., and New Orleans, La. The route considered touches Kansas City, Little Rock, Texarkana, Shreveport, Baton Rouge and New Orleans.

Chicago Traffic Club to Commemorate Express Centennial

To commemorate the one hundredth anniversary of express service, the Traffic Club of Chicago will hold a centennial luncheon on May 25. The principal speaker will be K. N. Merritt, general sales manager of the Railway Express Agency, whose subject will be A Century of Service.

Santa Fe Joins Fight Against Grasshopper Menace

The Atchison, Topeka & Santa Fe is co-operating with state and county agents in a drive to exterminate grasshoppers, which has been advanced several weeks over that of last year, in an effort to destroy the insects before they have a chance to migrate. Section foremen have been instructed in the method of mixing and spreading grasshopper poison and they are now engaged in efforts to clear the railway right-of-way of the insects. A recent survey shows that many areas in the Southwestern States are thickly infested with grasshopper eggs.

K. C. S. Establishes Fast Daylight K. C.-Shreveport Train

The Kansas City Southern has established a new and faster train between Kansas City, Mo., and Shreveport, La., on a schedule of 12 hr. and 10 min. for the 560 miles. The train, powered by a streamlined Diesel electric locomotive, and consisting of deluxe chair cars, a lounge car and a dining car, all air-conditioned, leaves Kansas City at 10:15 a. m. and arrives in Shreveport at 10:25 p. m., where it makes connections for trains to the south and west over the Texas & Pacific and the Southern Pacific. Returning, the train leaves Shreveport at 7:30 a. m. and arrives in Kansas City at 8:10 p. m.

Amlie Gets $4,600 Job in Justice Department

Attorney General Murphy on May 22 appointed Thomas R. Amlie as a special assistant attorney general in the Department of Justice's Lands Division in Mr. Amlie's home state of Wisconsin. His salary will be $4,600 a year. As noted in the *Railway Age* of May 13, the Attorney General sometime ago announced that he would perhaps appoint the former representative from Wisconsin whose nomination for the Interstate Commerce Commission was recently withdrawn by President Roosevelt when a Senate fight threatened on confirmation.

New York Central Awards Valor Medal to Crossing Watchman

John A. Cappiello, a New York Central crossing watchman at Canton, N. Y., was awarded a valor medal by the road at the annual meeting of the Rome, Watertown & Ogdensburg Pioneers' Association at Watertown, N. Y., on May 20. The recipient, on December 4, 1938, noticed a woman pedestrian about to cross the tracks at grade in front of a passenger train. When the woman continued to disregard his alarm whistle, Mr. Cappiello ran over, caught her, and jumped with her to the south side of the track, escaping the pilot of the locomotive by only a few feet.

Trainmen Would Like to See Rutland Judge Punished

The Brotherhood of Railroad Trainmen, in convention proceedings at Cleveland, Ohio, passed a resolution on May 20 favoring the impeaching of Federal Judge Harlan B. Howe of Rutland, Vt., declaring that he had "ordered" the receiver of the Rutland to reduce employees' wages "in a dictatorial manner." An announcement of A. F. Whitney, brotherhood president, reported by the Associated Press, stated that employees of the road "are working for a lower rate of pay than employees of connecting lines" and that the intent and purpose of the Railway Labor Act has been ignored by the action of Judge Howe.

Smoke Preventers Will Meet at Milwaukee

The annual convention of the Smoke Prevention Association will be held at Milwaukee, Wis., on June 13. Among the speakers on the program are G. H. Massy, master mechanic of the Central of New Jersey, who will speak on A Review of the Work of the Railroad Smoke Association of Hudson County, N. J.; A. A. Raymond, superintendent of fuel and locomotive performance of the New York Central who will talk on Firing Practices on Railroad Locomotives; and John E. Bjorkholm, assistant superintendent of motive power of the Chicago, Milwaukee, St. Paul & Pacific, whose subject is What the Railroads Are Doing to Prevent Smoke.

April Operating Revenues 5.7 Per Cent Above Last Year

Preliminary reports from 92 Class I railroads, representing 82.2 per cent of total operating revenues, made public on May 16 by the Association of American Railroads, show that these roads, in April, had estimated operating revenues amounting to $233,054,205 compared with $220,536,208 in the same month of 1938 and $370,217,652 in the same month of 1930. The April gross was 5.7 per cent above that for April, 1938, but 37.0 per cent below April, 1930.

Freight revenues of the Class I roads in April amounted to $184,641,658 compared with $172,519,844 in April, 1938, and $285,610,637 in April, 1930—7.0 per cent above the former, but 35.4 per cent below the same month in 1930. Passenger revenues totaled $26,639,892 compared with $26,684,849 in April, 1938. and $50,049,664 in April, 1930—0.2 per cent below the former and 46.8 per cent below the same month in 1930.

"Rail-Fan" Tour to Cover 6,000 Miles

A "Golden Gate Rail-Fan Tour" to be run out of Chicago, August 6 to 20, inclusive, will be operated by the Santa Fe in conjunction with the Western Pacific, Denver & Rio Grande Western, Missouri Pacific and the Milwaukee. Sponsored by the Railroad Magazine and the Chicago chapter of the Railway & Locomotive Historical Society, Inc., the tour will cover 6,000 miles in all, reaching Los Angeles, Cal., San Francisco and Denver, Colo. It will include not only the usual scenic tours but as well inspections of railroad facilities along the way and an all-day trip on the Denver & Rio Grande Western's 3 ft.-gage line crossing Marshall Pass. Rates covering all expenses range from $150 for coach accommodations to $218 for lower-berth Pullman accommodations.

Fourth Anniversary of Hiawathas

May 29 marks the fourth anniversary of the Hiawatha, the streamlined train of the Chicago, Milwaukee, St. Paul & Pacific, which operates between Chicago and the Twin Cities. In the four year period the Hiawatha and its over-flow sections have carried 1,185,000 paying passengers, an average of more than 800 daily. Originally the Hiawatha consisted of six air-conditioned cars hauled by streamlined steam locomotives. Later, two cars were added and in October, 1936, the original trains were replaced by nine-car units. Still another replacement was made in September, 1938. The present trains consist of nine or more cars, and a recent acquisition of a fleet of high-powered streamlined steam locomotives permits

operation of as many as 14 cars in one train on a schedule of 390 min. for the 410-mile run, including seven station stops enroute.

Central Western Board to Hear Budd

The seventeenth annual and thirty-ninth regular meeting of the Central Western Shippers Advisory Board will be held at Colorado Springs, Colo., on June 10. Among the subjects to be discussed at the meeting are "What Can Be Done to Give the Rail Carrier More Traffic?" by E. G. Plowman, traffic manager of the Colorado Fuel & Iron Corp., and a "Livestock Loss Prevention Program that Brings Results," by Earle G. Reed, supervisor, agricultural and industrial development of the Union Pacific. At a luncheon sponsored by the Colorado Springs Chamber of Commerce, the Junior Chamber of Commerce, the Kiwanis Club, the Lions Club and the Rotary Club, Ralph Budd, president of the Chicago, Burlington & Quincy, will speak on "Transportation in the World of Tomorrow," and L. M. Pexton, vice-president and general manager of the Denver Union Stockyards Company, on "How Transportation Makes Livestock Production Possible."

Says N. Y., S. & W. Bus Service Is Not Subject to Motor Act

Examiner L. A. Van Dyke has recommended in a proposed report that the Interstate Commerce Commission find that the New York, Susquehanna & Western's proposed operation of express bus service between North Bergen, N. J., and the Forty-second street area in New York City, to connect with its commuter hour trains from and to points in New Jersey, is not subject to regulation under the Motor Carrier Act. Thus the examiner would dismiss the Susquehanna's application for a certificate of public convenience and necessity.

The proposed report points out how the Scott Bros. decision placed freight pick-up and delivery services outside the scope of the Motor Carrier Act; and how "this principle was extended to the transportation of passengers and their baggage by a decision of the commission, Division 5, in Michigan Cab Company, Inc., Common Carrier Application, 7 M. C. C. 701." The latter decision, Examiner Van Dyke adds, "is controlling here."

British Advisory Council Okays "Square Deal" Program

The British Transport Advisory Council issued a unanimous report on May 19 favoring greater freedom for the railroads in setting freight rates, as embodied in the "square deal" proposals. Briefly, the Council recommended that the present system of statutory rate-making be abolished and that the roads be entitled to make reasonable rates voluntarily, subject to the condition that shippers be safeguarded by the provision that rates be increased only after periodical conferences between the carriers and shippers, with the additional right of appeal to the Railway Rates Tribunal. The Council could not agree on the question of required publication of tariffs.

The Transport Advisory Council was set up under the Road and Rail Traffic Act of 1933 to give advice and assistance to the Minister of Transport in connection with the co-ordination and development of the various transportation media. It is composed of representatives of practically all interested parties, including the Ministry, railways, highway operators, water carriers, local civic authorities, labor, shippers, and the "interests of pedestrians and pedal cyclists."

"Fortune" Smiles at Us

The magazine "Fortune," in its June issue, devotes a half dozen of its big pages to revealing, by text and 20 photographs, the intimate life of a typical railroad fireman (his 1938 wages were just about the average of all train and engine service employees in that year).

This fireman is Lewis Isaac of the D. L. & W.—a thrifty and community-spirited family man, the likes of whom all over the country are the railroads' pride, and the source of their dependable public service.

But "Fortune" relates more than human interest items—it also lets out a few details about "feather-bedding," a practice which, it says, arouses *Railway Age's* "indignation," and causes railroad managements to "whimper."

Citizens' Committee Studies Old Colony Problem

A special citizens' advisory committee appointed by Governor Saltonstall of Massachusetts to discuss ways and means of preventing the proposed abandonment of passenger service on the South Shore by the Old Colony, leased road of the New York, New Haven & Hartford, held its first public meeting in the State House, Boston, on May 19, to which residents and civic officers of communities served by 48 stations affected were invited. Since its appointment, the committee has received hundreds of letters and telegrams, many of which offered suggestions for keeping the affected passenger service intact.

Chief of these were suggestions that the communities abate local taxes on the Old Colony, proposals of subsidization of the road by the state to cover deficits and a plan for conversion of tracks and rights-of-way into high-speed trolley routes. The manager of the Eastern Massachusetts Street Railway Company is reported as having indicated that the traction company is willing to take over operation of passenger service on the Old Colony lines through the South Shore and Cape Cod areas.

Western Railway Club Holds Annual Meeting

The Western Railway Club, Chicago, held its annual meeting and dinner at the Hotel Sherman on Monday evening, May 22, with 800 persons in attendance. The meeting was addressed by Balthasar H. Meyer, who retired as a member of the Interstate Commerce Commission on May 1. An abstract of Mr. Meyer's address appears elsewhere in this issue.

At this meeting, officers were installed for the ensuing year as follows: President, H. H. Urbach, mechanical assistant to executive vice-president, Chicago, Burlington & Quincy; first vice-president, O. N. Harstad, general manager, Chicago, Milwaukee, St. Paul & Pacific; second vice-president, W. W. Kelley, general purchasing agent, Atchison, Topeka & Santa Fe; executive secretary, W. L. Fox, general superintendent, Chicago & Western Indiana-Belt; and treasurer, J. W. Fogg, vice-president and general manager, MacLean-Fogg Lock Nut Company. The report of the secretary showed a total membership of 2,206 railway and railway supply men, the largest in the history of the club, and an increase of 262 during the year.

Freight Car Loading

Loading of revenue freight for the week ended May 20 totaled 615,966 cars, the Association of American Railroads announced on May 25. This was an increase of 60,570 cars, or 10.9 per cent, above the preceding week, an increase of 70,177 cars, or 12.9 per cent, above the corresponding week in 1938, but a decrease of 159,108 cars, or 20.5 per cent, below the same week in 1937.

As reported in last week's issue, the loadings for the previous week ended May 13, totaled 555,396 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, May 13

Districts	1939	1938	1937
Eastern	131,120	118,191	170,973
Allegheny	100,392	97,382	161,093
Pocahontas	12,647	33,311	48,405
Southern	84,745	85,389	106,530
Northwestern	86,218	71,179	124,804
Central Western	96,882	91,766	105,193
Southwestern	43,392	44,590	52,562
Total Western Districts	226,492	207,535	282,559
Total All Roads	555,396	541,808	769,560
Commodities			
Grain and Grain Products	34,370	32,226	26,476
Live Stock	12,783	12,166	12,545
Coal	43,222	81,404	116,287
Coke	4,455	4,073	10,075
Forest Products	30,573	26,354	39,287
Ore	24,928	12,971	71,095
Merchandise l.c.l.	152,161	148,845	170,215
Miscellaneous	252,904	223,769	323,580
May 13	555,396	541,808	769,560
May 6	572,857	536,149	763,495
April 29	586,015	543,089	777,827
April 22	558,706	523,748	756,248
April 15	547,816	537,585	746,523
Cumulative Total, 19 Weeks	10,950,765	10,363,109	13,710,033

Bills in Congress

The Senate committee on interstate commerce and the House committee on interstate and foreign commerce have reported favorably identical bills (S. 2017 and H. R. 5474) to amend the Railroad Unemployment Insurance Act along lines recommended by the Railroad Retirement Board to facilitate administration.

Senator Burke and Representative McLaughlin, Democrats of Nebraska, have introduced identical bills (S. 2444 and H.

R. 6371) to amend the Interstate Commerce Act "to prohibit certain discriminatory practices with respect to the granting of transit privileges."

Representative Sweeney, Democrat of Ohio, has introduced H. R. 6424 "to provide for the transportation and distribution of mails on motor-vehicle routes."

Another interterritorial freight rate bill, H. R. 6440, has been introduced in the House by Representative Patman, Democrat of Texas.

President Roosevelt has vetoed S. 90, a bill to provide for the punishment of persons transporting stolen animals in interstate commerce, and for other purposes. The President objected to the bill on the grounds that it extended the federal police power too far and encroached upon the rights of the states.

Bill Would Create National Transportation Authority

Representative Osmers, Republican of New Jersey, has introduced in the House of Representatives a bill (H. R. 6402) "to establish a national transportation policy and to create a National Transportation Authority." Leaving regulatory questions involving all forms of transportation to the Interstate Commerce Commission, the bill would set up a five-man Transportation Authority to act as advisor to the President and Congress on transportation planning and policy matters.

Specifically the Authority, whose members "must be experienced in transportation matters" but not in the employ of any of the transportation agencies at the time of their appointment, would be directed to "carefully review" and report to Congress on: Railroad consolidations; adequacy of the transportation plant; military transportation; subsidization of transport; merger of existing regulatory agencies into the I. C. C. and promotional agencies into the new Authority; and the desirability of organizing a transport research bureau. The study of railroad consolidations would consider the desirability of one national system either privately or publicly owned and operated; consolidation of all roads into six or seven privately-owned regional systems; consolidation into a "relatively small number" of competing systems; leaving the matter of consolidation to the railroads as recommended by the committee-of-six.

Members of the authority would be appointed by the President with the advice and consent of the Senate, and would serve seven years, after shorter initial terms of some members had provided for a staggering of expirations. They would receive $15,000 a year.

Chandler and Reorganization Bills are Reported

Senator Wheeler, from the Senate committee on interstate commerce, has favorably reported S. 1869, the railroad reorganization court measure, together with a report urging its adoption. At the same time the committee voted to report favorably the Chandler voluntary rail reorganization bill, but has limited it to those roads which have filed plans with the commission as of April 1, 1939, making it applicable to only the Baltimore & Ohio and the Lehigh Valley. Amendments made in S. 1869 by the Senate committee were detailed in last week's issue, while provisions of the orlginal measure were given in the *Railway Age* for March 25, page 534.

In recommending S. 1869 for passage, the committee report asserts that "The bill calls for realism in the reorganization process." After pointing out that one third of the railroad mileage of the country is now in the hands of the courts and much more of it is on the verge of bankruptcy, it goes on to say that "it would be reckless indifference to tolerate in the future a repetition of unsound and temporary makeshifts and of reorganization scandals that have all too frequently attached themselves to our past history."

It is further argued that the bill seeks to accomplish the reorganization of insolvent roads on the basis of what can reasonably and safely be expected for them in the way of future earnings. The committee report also says that the bill "in spite of its realism does not strait jacket the reorganization pattern nor does it disregard the special circumstances of a particular case. Not only is the presumed maximum of future earnings expressly made rebuttable but also the judgment of expectable future earnings of property must be made 'in the light of its earnings experience and of *such changes* as may reasonably be expected'. Ample flexibility is thus provided to consider all the facts relating to earning power."

Representative McLaughlin, Democrat of Nebraska, has introduced in the House H. R. 6369, a companion bill to S. 1869, which supersedes a previous bill of his and incorporates the changes made in S. 1869 by the Senate committee. Hearings on the measure are scheduled before the House judiciary committee on May 31.

"Wringer" Roads Lose 70 Per Cent of Fixed Charges

The put-them-through-the-wringer boys continue to holler for "drastic" reduction in railway capitalization and fixed charges—oblivious to the fact that the program they advocate is actually in process of actualization.

Just for instance—the Bureau of Finance of the Interstate Commerce Commission has put out some figures covering 18 roads now in process of being wrung out.

The figures, which are taken either from an examiner's proposed report or from a final report of the commission, show that the total capitalization of the 18 roads is to be reduced from $2,048,105,049 to $1,157,512,533, a drop of 43 per cent, while the annual fixed charges have been cut from $60,580,328 to $18,168,159, a reduction of 70 per cent.

The roads included in the totals are the following: Akron, Canton & Youngstown; Chicago & Eastern Illinois; Chicago Great Western; Chicago, South Shore & South Bend; Copper Range; Kansas City, Kaw Valley & Western; Louisiana & North West; Reader; Savannah & Atlanta; Spokane International; Western Pacific; Alabama, Tennessee & Northern; Chicago, Indianapolis & Louisville; Chicago, Milwaukee, St. Paul & Pacific; Denver & Rio Grande Western; Missouri Pacific; Oregon, Pacific & Eastern; and the St. Louis Southwestern.

Press and Cameramen Active on New Haven Jaunt

A carful of newspaper reporters and cameramen and newsfilm operators went along on a fold-boat-bicycle-camera train operated by the New York, New Haven & Hartford on May 21 to record the disporting of enthusiasts for these diversions. While the threat of rain kept away numbers of less hardy prospective customers, the train was nevertheless comfortably full on the 231-mile round-trip between New

(*Continued on page 926*)

Fold-boaters Unload Equipment from Baggage Car on New Haven Outing—Cameramen's Car in the Foreground

ANNUAL REPORT

SOUTHERN PACIFIC COMPANY

REPORT OF THE BOARD OF DIRECTORS

NEW YORK, N. Y., MAY 18, 1939.

TO THE STOCKHOLDERS OF THE SOUTHERN PACIFIC COMPANY:

Your Board of Directors submits this report of the operations and financial affairs of the Southern Pacific Company and Affiliated Companies for the year ended December 31, 1938.

Summary of Income Accounts

The following tabulation is a summary of the net deficit for the year of Southern Pacific Transportation System Companies and of all separately operated Solely Controlled Affiliated Companies, operating in the United States and in the Republic of Mexico.

	Year Ended December 31, 1938	Increased Deficit Compared with 1937 Amount	Per Cent
Net deficit of Southern Pacific Transportation System Companies	*$6,829,008.44*	$7,585,801.79	.....
Net deficit of separately operated Solely Controlled Affiliated Companies operating in the United States	*4,823,634.80*	1,040,165.98	27.49
Total	*$11,652,643.24*	$8,625,967.77	285.00
Net deficit of separately operated Solely Controlled Affiliated Companies operating in the Republic of Mexico	*1,225,961.39*	861,619.18	236.49
Net deficit of Southern Pacific Transportation System and all separately operated Solely Controlled Affiliated Companies	*$12,878,604.63*	$9,487,586.95	279.79

Income Account—Southern Pacific Transportation System

Southern Pacific Transportation System (Southern Pacific Company and Transportation System Companies, consolidated, excluding offsetting accounts and inter-company dividends).

	Year Ended December 31, 1938	+Increase −Decrease	Per Cent
OPERATING INCOME			
Railway operating revenues	$200,070,813.66	−$24,946,098.61	11.09
Railway operating expenses	157,246,668.72	−16,666,007.36	9.58
Net revenue from railway operations	$42,824,144.94	−$8,280,091.25	16.20
Railway tax accruals	$17,930,065.21	+$931,317.69	5.48
Equipment rents—Net	9,821,764.51	−890,517.28	8.31
Joint facility rents—Net	775,312.04	−1,614.16	.21
Net railway operating income	$14,297,003.18	−$8,319,277.50	36.78
OTHER INCOME			
Revenues from miscellaneous operations	$223,612.58	−$32,482.78	12.68
Income from lease of road and equipment	540,329.67	+135.56	.03
Miscellaneous rent income	1,180,260.41	−4,791.07	.40
Miscellaneous non-operating physical property	587,888.83	+379,304.29	181.85
Separately operated properties—Profit	.....	−22.74	100.00
Dividend income	†3,678,201.00	+163,329.75	4.65
Income from funded securities—Bonds and notes	2,803,164.77	+43,493.18	1.58
Income from funded securities—Investment advances	106,585.46	−66,202.53	38.31
Income from unfunded securities and accounts	178,065.06	+77,441.74	76.96
Income from sinking and other reserve funds	132,301.83	−318,135.73	70.63
Miscellaneous income	1,845,703.37	+693,726.23	60.22
Total other income	$11,276,112.98	+$935,795.90	9.05
Total income	$25,573,116.16	−$7,383,481.60	22.40
MISCELLANEOUS DEDUCTIONS FROM INCOME			
Expenses of miscellaneous operations	$220,151.55	−$32,836.40	12.98
Taxes on miscellaneous operating property	6,600.00	−700.00	9.59
Miscellaneous rents	674,609.72	−4,574.46	.67
Miscellaneous tax accruals	322,838.50	+131,485.54	68.71
Separately operated properties—Loss	204,866.87	+115,874.49	130.21
Maintenance of investment organization	31,147.48	+16,148.81	107.67
Miscellaneous income charges	$221,915.39	−$39,578.24	15.14
Total miscellaneous deductions	$1,682,129.51	+$185,819.74	12.42
Income available for fixed charges	$23,890,986.65	−$7,569,301.34	24.06
FIXED CHARGES			
Rent for leased roads and equipment	$29,366.11	+$4,471.12	17.96
Interest on funded debt—Bonds and notes	29,429,422.87	−591,623.77	1.97
Interest on funded debt—Non-negotiable debt to affiliated companies	694.02	+76.04	12.30
Interest on unfunded debt	661,730.20	+597,848.59	935.87
Amortization of discount on funded debt	598,781.89	+5,728.47	.97
Total fixed charges	$30,719,995.09	+$16,500.45	.05
Net deficit	**$6,829,008.44*	+$7,585,801.79	.....
DISPOSITION OF NET INCOME			
Income applied to sinking and other reserve funds	$330,552.58	−$170,266.05	34.00
Income balance transferred to debit of profit and loss	*$7,159,561.02*	+$7,415,535.74	.....

* The income account of Southern Pacific Transportation System includes interest on bonds of, and rental income from, separately operated Solely Controlled Affiliated Companies, whether earned or not, in order that such income credits will offset income debits reflected in the income accounts of separately operated Solely Controlled Affiliated Companies, Southern Pacific Company, when necessary, makes advances to these debtor companies to enable them to meet interest on funded debt and rental obligations.

† Dividend income excludes dividends received from companies included in this statement and, also, from separately operated Solely Controlled Affiliated Companies; dividends from the latter companies being excluded for the reason that the offsetting charges by such companies were made against Profit and Loss and, therefore, would not be offset in the summary appearing above.

Total railway operating revenues for 1938 amounted to $200,070,813.66, a decrease of $24,946,098.61, or 11.09 per cent, compared with 1937. The decrease in operating revenues was mainly due to the nation-wide decline of industrial and other business activities that developed in the latter part of 1937 and reached its lowest stage in the forepart of 1938, as a result of which the volume of traffic carried by your Company's Lines was seriously reduced. The decrease in operating revenues for the first four months of the year amounted to $14,562,682.75, or 19.59 per cent. In addition to the effect on operating revenues of lower traffic volume generally, a substantial part of the decrease for the first four months was a result of considerable revenue gains in the same months of 1937, from freight movement by rail because of interruption of steamship services to and from Pacific ports. The decrease in operating revenues for the year would have been more severe except for authorization by the Interstate Commerce Commission, in Ex Parte 123, of a general increase in freight rates and charges which, together with increases authorized on intrastate freight traffic, produced approximately $7,260,000 of revenue during the last nine months of the year in which the increased tariffs were in effect. A substantial amount of additional revenues was also realized from increases in certain passenger fares, the principal change being an increase in the basic rate for intermediate fares for travel in Pullman tourist sleeping cars, from 2 cents a mile to 2¼ cents a mile. Railway operating expenses decreased $16,666,007.36, or 9.58 per cent. Railway tax accruals increased $931,317.69, or 5.48 per cent. Equipment and joint facility rents paid decreased $892,131.44, or 7.76 per cent. Net railway operating income amounted to $14,297,003.18. It was the smallest for any year since 1933, and was $8,319,277.50, or 36.78 per cent, less than for 1937. Freight revenues decreased $21,409,460.05, or 11.98 per cent.

Passenger revenues for 1938 amounted to $25,244,265.11, and were $2,199,754.35, or 8.02 per cent less than for 1937, mainly as a result of a decrease of 11.90 per cent in the revenue passenger-miles of the rail lines of the transportation system, excluding electric suburban service. This decrease in volume of passenger traffic was chiefly due to the recession in industrial

and other business activities. On July 1, 1938, local coach fares at reduced rates were made effective on your Company's lines between San Francisco and Los Angeles, except between certain stations on the Coast Line. The reduced fares were published as a result of establishment of a competing passenger service between San Francisco and Los Angeles partly by rail and partly by bus, through the San Joaquin Valley, at fares computed at approximately 1½ cents a mile for distances based on the shortest mileage between stations by rail or by bus or a combination of the two; such rate and distance basis having been authorized by the California Railroad Commission in a decision dated April 18, 1938.

On December 1, 1938, operation of the ferry and electric train interurban service previously operated by your Company between San Francisco and Oakland, Alameda, and Berkeley, California, was taken over by the Interurban Electric Railway Company, which is solely controlled by your Company through stock ownership. As mentioned in last year's report, a new light-weight, 17-car, diesel-electric powered streamliner "City of San Francisco" was substituted, on January 2, 1938, for the 11-car, diesel-electric powered streamliner previously operated by your Company, Union Pacific System, and Chicago and North Western Railway Company between San Francisco and Chicago. The new train, having substantially larger passenger carrying capacity, has proved to be very popular. The decrease of $513,143.37, or 11.25 per cent, in All Other Transportation revenues was mainly a result of decreases in earnings from switching, Pullman car operations, and lighterage. The decrease of $527,750.33, or 8.00 per cent, in Incidental revenues was largely due to smaller earnings from operation of dining cars, buffet cars, and restaurants and less demurrage collections.

Under a policy of strict economy, and by increasing the efficiency of operations, the reduction of $16,666,007.36, or 9.58 per cent, in operating expenses was accomplished without impairing the standard of transportation services. Emergency expenses amounting to $1,382,778.20, of which $1,345,864.51 ordinarily would have been charged to operating expenses and $36,913.69 to tax accounts, for repairs to roadway, structures, and drainage facilities, which were extensively damaged by floods caused by torrential rains in southern California during February and March, 1938, were charged to profit and loss accounts, with the authority of the Interstate Commerce Commission. Aside from the amount of expenses charged to profit and loss accounts, and the amount of expenses applicable to a larger program of rail renewals completed during the year, the decrease in operating expenses was principally the result of the smaller volume of traffic and decreases effected in forces employed, materials and supplies used, and fuel oil consumed in locomotives and steamships. The results were affected, however, by a net increase of $3,946,000 in the following items of expenses: (1) an increase of about $4,362,000 due to higher rates of pay in effect in 1938 compared with the rates in effect prior to the wage increases on August 1, 1937, for non-transportation employees, and October 1, 1937, for employees in train and engine service; and (2) an increase of about $1,082,000 due to higher prices of materials and supplies, including fuel oil.

In view of the continuing increase in average speed of trains and anticipating resumption of a rising trend of traffic volume, 418.66 track miles of new rail, principally of 112 lb. and 131 lb. sections, and 222.93 track miles of secondhand rail, were laid in renewals; an increase of 126.42 track miles of new rail, and a decrease of 24.45 miles of secondhand rail, compared with 1937. The increase in charges to operating accounts incident to this program was mainly offset by reduction of other maintenance expenditures.

The average speed of passenger trains operated in 1938 was faster than the average speed in any previous year. Increased loading and speed of freight trains resulted in a new record of 32,565.84 gross ton-miles per freight train hour; an increase of 5.31 per cent, compared with 1937.

Railway tax accruals amounted to $17,930,065.21, an increase of $931,317.69, or 5.48 per cent, due to increased rates of excise taxes, effective January 1, 1938, prescribed by unemployment insurance provisions of Federal and State Social Security Acts, causing an increase of $834,223.34 in accruals of such taxes, although the total amount of employees' compensation was smaller than in 1937; and an increase of $265,117.17 representing amount of Federal surtax on undistributed net income paid during year 1938 on taxable net income for year 1936 held to be subject to that tax; these increases being partly offset by a net decrease of $168,022.82 in accruals for all other taxes. Taxes for the year 1938 consumed 41.9 per cent of the net revenue from railway operations.

The certainty of a serious drop in operating income due to diminished revenues, higher wage rates and material prices, and increased taxes, impelled your Company to join other railroads in serving notice on the employee labor organizations, on May 12, 1938, of a 15 per cent wage cut to take effect July 1, 1938. Agreement was reached to negotiate the matter on a national basis, but efforts to reach a settlement in conference were unsuccessful, and mediation under the terms of the Railway Labor Act failed to adjust the dispute. The railroads then announced that the wage cut would take effect October 1, 1938, and the employees, on September 26, 1938, announced their intention to call a nation-wide strike unless the wage cut proposals were withdrawn. On September 27, 1938, the President of the United States, under authority of the Railway Labor Act, created an Emergency Fact Finding Board, which, after consideration of the matter, recommended that no horizontal reduction in wages on a national scale should be pressed at that time. The railroads thereupon withdrew the notices of wage reduction. From figures mentioned in the comments concerning operating revenues and operating expenses, it will be noted that the increase in expenses due to the 1937 wage awards absorbed about $4,362,000, or about 60 per cent, of the additional revenues produced by the general increase in freight rates and charges.

Consolidated Balance Sheet

Southern Pacific Transportation System Companies and separately operated Solely Controlled Affiliated Companies operating in the United States, excluding inter-company securities and open account balances. The assets reported below are stated on the basis of classifications prescribed by Federal or State authorities where applicable, and where not, on other classifications following in so far as practicable, the same accounting principles, no attempt being made to adjust to current estimated values.

ASSETS

	December 31, 1938	+Increase −Decrease
Investments		
Property investment	$1,671,018,446.61	−$13,098,343.52
Sinking funds	906,808.39	−2,165,170.42
Investments in affiliated companies:		
(a) Stocks	102,138,173.84	.....
(b) Bonds	269,900.00	−163,000.00
(c) Stocks and bonds—Cost inseparable	2,325,052.15	−152,000.00
(d) Notes	18,632,675.13	+18,314,924.08
(e) Advances	6,685,131.68	−16,360,203.65
Other investments	42,273,947.04	+935,442.10
Total investments	$1,844,250,134.84	−$12,688,351.41
Current Assets		
Cash	$22,165,828.49	+$13,413,846.29
Material and supplies	15,392,388.49	−4,552,220.43
Other current assets	16,323,322.63	−186,063.89
Total current assets	$53,881,539.61	+$8,675,561.97
Deferred Assets and Unadjusted Debits		
Deferred assets	$1,548,102.35	+$314,031.00
Discount on securities	12,705,594.20	−627,604.82
Other unadjusted debits	8,560,874.90	−10,300,729.44
Total deferred assets and unadjusted debits	$22,814,571.45	−$10,614,303.26
Grand total	$1,920,946,245.90	−$14,627,092.70

LIABILITIES

Stock		
Capital stock held by the public:		
(a) Southern Pacific Company	$377,276,305.64	.....
(b) Transportation System Companies	1,300.00	−$100.00
(c) Solely Controlled Affiliated Companies	52,410.00	.....
(d) Total	$377,330,015.64	−$100.00
Premium on capital stock	6,304,845.00	.....
Total stock	$383,634,860.64	−$100.00
Governmental Grants		
Grants in aid of construction	$5,018,249.97	+$750,971.44
Long Term Debt		
Funded debt held by the public	$725,867,121.89	+$643,769.57
Funded debt held in sinking funds:		
(a) By Transportation System Companies	516,000.00	−1,656,000.00
(b) By Solely Controlled Affiliated Companies	419,000.00	+150,000.00
Total funded debt	$726,802,121.89	−$862,230.43

[Advertisement]

(*Liabilities—Continued*)

Non-negotiable debt to affiliated companies:		
(a) Bonds held in sinking funds by Transportation System Companies	.....	−$609,000.00
(b) Open accounts	$4,192,097.24	+903,077.86
Total non-negotiable debt	$4,192,097.24	+$294,077.86
Total long term debt	$730,994,219.13	−$568,152.57
CURRENT LIABILITIES		
Loans and bills payable	$20,000,000.00	+$15,000,000.00
Other current liabilities	30,050,396.15	−487,067.05
Total current liabilities	$50,050,396.15	+$14,512,932.95
DEFERRED LIABILITIES AND UNADJUSTED CREDITS		
Deferred liabilities	$460,173.29	−$210,404.86
Accrued depreciation	170,905,041.61	+2,776,035.19
Other unadjusted credits	19,339,629.27	−8,901,338.93
Total deferred liabilities and unadjusted credits	$190,704,844.17	−$6,335,708.60
CONSOLIDATED ADJUSTMENT		
Excess of inter-company liabilities over assets eliminated	$137,536,905.76	−$232,188.56
CORPORATE SURPLUS		
Appropriated surplus	$11,034,860.25	−$12,598,344.10
Profit and loss—Balance	411,971,909.83	−10,156,503.26
Total corporate surplus	$423,006,770.08	−$22,754,847.36
Grand total	$1,920,946,245.90	−$14,627,092.70

The net increase during the year in funded debt of Southern Pacific Company and Transportation System Companies *held by the public* amounted to $657,706.38. The $20,000,000 reported in the balance sheet against loans and bills payable, represents bank loans, $5,000,000 of which were made in the latter part of 1937 and $15,000,000 of which were made during the first five months of 1938. Borrowing of these funds was necessary due to the unusual decline in net railway operating income.

The net decrease during the year in Investment in Road and Equipment of the Transportation System, amounted to $4,998,072.02, consisting of gross expenditures of $9,676,812.19 less property retired, equipment vacated, and other adjustments amounting to $14,674,884.21.

The total expenditures of $9,676,812.19 for road extensions and additions and betterments during 1938 compare with expenditures of $32,588,567.30 for such purposes during 1937; the decrease of $22,911,755.11 being due, principally, to expenditures of $20,070,000 for new equipment during 1937, compared with $867,000 in 1938. Expenditures during 1938 for additions and betterments to rolling stock include approximately $383,000 for two coffee shop cars and two tavern cars for the "Daylight" trains and approximately $468,000 for your Company's proportion of the cost of the streamliner "City of San Francisco." Continued progress was made during the year on the new union passenger station being constructed at Los Angeles, California, by your Company and other railroads jointly, pursuant to an order issued by the California Railroad Commission. This project was approaching completion at the end of the year, and subsequently, May 7, 1939, was announced as the date on which the new terminal would be placed in service.

Pacific Greyhound Lines and Southwestern Greyhound Lines, Inc.

Pacific Greyhound Lines, operating the principal motor bus lines on the Pacific Coast south of Portland, Oregon, and in the territory west of Salt Lake City, Utah; Albuquerque, New Mexico; and El Paso, Texas; together with its solely controlled subsidiary, California Parlor Car Tours Company, had net income of $1,732,817.55 for 1938, a decrease of $241,704.21, or 12.24 per cent, compared with the amount of net income for 1937 restated to give effect to a retroactive adjustment downward of bus depreciation rates. An average of 9,346 route miles was operated during the year, motor coaches traveled 35,255,224 miles, and 8,465,593 revenue passengers were carried. Gross revenues were $9,501,256.18; operating expenses, $5,538,063.88; taxes and licenses, $1,424,693.83; and depreciation, $804,219.99. On December 31, 1938, your Company owned 39.05 per cent of the common stock and 22.78 per cent of the preferred stock of Pacific Greyhound Lines.

Southwestern Greyhound Lines, Inc., in which your Company and St. Louis Southwestern Railway Company each owns one-sixth of the voting stock, and together own 11.3 per cent of other outstanding capital stock, operated over an average of 6,413 route miles during 1938 in the territory between Denver, Colorado; Albuquerque, New Mexico; and El Paso, Texas; on the west; and St. Louis, Missouri; Memphis, Tennessee; and Lake Charles, Louisiana; on the east. During the year, motor coaches traveled 21,540,227 miles, passengers carried numbered 3,096,885, and gross revenues amounted to $5,640,904.48. Operating expenses were $3,351,524.22; taxes, $790,387.71; depreciation, $423,378.76; and net income was $1,019,113.28, an increase of $22,409.56, or 2.25 per cent, compared with 1937.

Southern Pacific Golden Gate Ferries

Southern Pacific Golden Gate Company, a holding company in which your Company owns slightly over fifty per cent of the outstanding stocks, and its solely controlled Southern Pacific Golden Gate Ferries, Ltd., which operates vehicular ferries on San Francisco Bay, had a consolidated net loss for 1938 of $457,103.17, compared with a net loss of $644,687.18 for 1937. Pursuant to decision and order of California Railroad Commission, the ferry company, on July 25, 1938, abandoned service between San Francisco and Marin County, which service, from May 28, 1937, competed with the Golden Gate Bridge for vehicular traffic. The plan mentioned in the 1937 report, under which, through agreement with the California Toll Bridge Authority, service competing with the San Francisco-Oakland Bay Bridge would be eliminated, has not been consummated, and there are no important developments in this respect to report at this time.

Relocation of Main Line Between Redding and Delta, California

In last year's annual report, mention was made of construction to be undertaken by the Federal Government of Shasta Dam, near Kennet, California, and the relocation by the Government of your Company's main line between Redding and Delta, California, necessitated by construction of the dam, which will be 560 feet high, 3,100 feet long at the top, and will form a reservoir 35 miles long with a capacity of 4,500,000 acre feet. Construction of the dam was commenced during 1938, initial work including the building of a diversion tunnel under the dam site, through which your Company's line will be temporarily routed in order to permit construction of the dam to proceed simultaneously with relocation of the railroad between Redding and Delta. Construction of this diversion tunnel, 1,820 feet long, is well under way.

On September 2, 1938, your Company entered into an agreement with the United States of America, providing for construction entirely at the expense of the Government, of a new line of railroad approximately 30 miles long, between Redding and Delta, replacing the line which will become inoperative because of construction of the Shasta Dam. Construction of the new railroad line was started in October, 1938, and is scheduled for completion in 1941.

Flood Damage in California

During the last two days of February and the first three days of March, 1938, two rainstorms of great intensity in southern California caused floods which, on March 2, completely disrupted railroad and highway traffic and crippled electric communication and power lines in the Los Angeles district and an extensive surrounding area. The cost of repairs and protective improvements to properties of your Company and Pacific Electric Railway Company which were damaged by these floods will amount to about $2,323,000. A large force of repair crews, which was immediately assembled, effected emergency repairs which permitted restoration of through train service on the Coast Line at 6:00 a. m., March 5; on the Sunset Route at 11:00 p. m., March 7; and on the San Joaquin Valley Line at 8:00 a. m., March 15.

In the territory served by Northwestern Pacific Railroad Company's main line between Willits and Eureka, California, the heaviest rainfall in thirty-five years occurred during the first three months of 1938, following heavy rains in the last two months of 1937. As a result of these storms, roadway fills and embankments were softened and settled, landslides and washouts occurred in many places, and through train service was interrupted for a period of seventy-three days from February 2 to April 15, 1938, during which time passengers, baggage, mail,

[Advertisement]

express, and less-than-carload freight were moved between Willits and Eureka by motor buses and trucks. Charges to operating expenses and investment accounts during 1938 for repairs, additional drainage facilities, and other protective improvements made in rehabilitation of the line, amounted to approximately $412,000.

Motor Truck Competition

Motor truck competition continues severe. Under the Federal Motor Carrier Act, trucking lines are being stabilized and have expanded their operations through joint arrangements, becoming increasingly competitive for longer hauls. There has been no lessening of previous intensive competition for short-haul traffic.

There are a number of motor carriers operating in Texas, under injunctions against the Texas Railroad Commission, which are handling interstate traffic pending decision of their rights under the Federal Motor Carrier Act of 1935. These operators, as a rule, file individual tariffs naming rates for less-than-carload traffic, including store-door pick-up and delivery of the freight, which are about equal to carload rates of the rail lines. The United States Supreme Court, in December, 1938, decided one of these typical cases against the motor carrier.

General

The year began with unfavorable conditions in trade and industry. Beginning with the summer months, industrial production turned upward and led business activity forward with a decided recovery from May to December. As the year ended, the business outlook was greatly improved. Passenger traffic is expected to increase substantially in 1939, as a result of travel to and from the Golden Gate International Exposition, on Treasure Island in San Francisco Bay, which opened on February 18, 1939, and the New York World's Fair which opened on April 30, 1939.

The Board gratefully acknowledges its appreciation of the loyal and efficient services rendered by officers and employees during the year.

By order of the Board of Directors,

HALE HOLDEN, *Chairman.*

[Advertisement]

News

(*Continued from page 922*)

York and Canaan, Conn. Some 50 fold-boaters chanced the rapids and rocks in a 25-mile trip down the Housatonic river and 116 cyclists pedalled a 25-mile route laid out for them and patrolled by railroad representatives. Motion picture men were afforded automobiles to permit their getting action pictures of the boaters along the way.

Bus Revenues Up 7.2 Per Cent in January

Class I motor carriers of passengers, reported January revenues of $7,768,275 as compared with $7,246,187 for January, 1938, an increase of 7.2 per cent, according to the monthly compilation prepared by the Interstate Commerce Commission's Bureau of Statistics and Bureau of Motor Carriers from 146 reports representing 147 bus operators. Passengers carried increased 7.1 per cent from 9,555,513 to 10,232,375. The figures by regions are shown in the accompanying table.

	Passenger Revenue		Passengers Carried	
	January 1939	January 1938	January 1939	January 1938
New England Region	$384,851	$342,062	954,220	911,540
Middle Atlantic Region	1,152,663	1,002,881	2,464,679	2,311,705
Central Region	1,361,001	1,168,824	1,779,058	1,495,412
Southern Region	1,903,899	1,809,924	2,051,213	1,959,676
Northwestern Region	312,266	276,411	296,954	281,365
Mid-Western Region	607,697	600,722	500,078	503,432
Southwestern Region	1,026,978	1,017,801	1,039,068	1,042,241
Rocky Mountain Region	89,914	80,501	76,298	81,774
Pacific Region	929,006	947,061	1,070,807	968,368

Motor Carrier Application and Decision

The Frisco Transportation Company, a wholly-owned motor carrier subsidiary of the St. Louis San Francisco, has applied to the Interstate Commerce Commission for authority to purchase the motor carrier operation of F. H. Scofield, doing business as the Scofield Bus Line, in Poplar Bluff, Mo.

Division 5 of the Interstate Commerce Commission has authorized by purchase by the Southern Pacific Transport Company a wholly-owned motor carrier subsidiary of the Southern Pacific, of the operating rights and property of D. C. Beckman of Gonzales, Tex.

The Interstate Commerce Commission, Division 5, has approved the purchase by the Rock Island Motor Transit Company, affiliate of the Chicago, Rock Island & Pacific, of certain operating rights of William F. Peterson, doing business as A. & A. Truck Lines on a route between Hutchinson, Kans., and Dodge City. This is the case wherein a previous decision by Division 5 (see *Railway Age* of November 5, 1938, page 679) denied the Rock Island's application for authority to lease the operating rights involved under a set-up which appeared to the commission to be "no more than a contract under which lessor would confine his services to the railroad." That original decision, however, suggested that the commission would give further consideration to lease or purchase of the rights under revised terms and conditions.

U. S. Supreme Court Orders

The United States Supreme Court decided at its May 22 session that holders of first terminal and unifying mortgage bonds of the St. Louis Southwestern could not elect to receive the principal of their bonds in Dutch guilders as provided in the original mortgage, but must be content to be paid in legal tender United States money. The trustee in bankruptcy contended and the lower courts held that the Joint Resolution of June 5, 1933, made the bonds dischargeable by payment of current legal tender United States money.

The holders of the bonds had claimed that they should receive $37,335,525 based on the value of Dutch guilders, but the lower courts found and the Supreme Court affirmed that they should get $21,638,000, the face amount of their bonds in dollars.

At the same session the Court noted probable jurisdiction in the case of the Union Stock Yard & Transit Co. of Chicago v. United States, and agreed to review a decision of the United States District Court for the northern district of Illinois declining to set aside an order of the Interstate Commerce Commission requiring the stockyard company to cancel schedules by which it proposed to cancel its tariff publishing charges for loading and unloading carload shipments of livestock for railroads at its stockyard.

Q Speeds Service to Nebraska and Colorado

With the inauguration of the "Overnite Denverite" and the "Exposition Flyer" on June 10, the Chicago, Burlington & Quincy will have two 16-hr. and two 19⅛ hr. trains between Chicago and Denver, while the time from Chicago to Omaha will be reduced to 10⅛ hr. The Overnite Denverite will be placed in service between Chicago and Denver on a 16-hr. schedule to handle the overflow business of the Denver Zephyr.

The Exposition Flyer will be placed in operation between Chicago and San Francisco over the Burlington, the Denver & Rio Grande Western and the Western Pacific on a schedule of 59 hr. 55 min. westbound and 61½ hr. eastbound. Under this schedule the train will cover the 496 miles to Omaha in an afternoon or 10⅛ hr., thus becoming the only train giving ½-day service between these points. It will leave Chicago at 12:35 p. m. and arrive in Omaha at 10:55 p. m. the same day. At the same time, by arriving at Denver at 8:05 a. m. the train will give 20½-hr. service from Chicago to Denver. It will depart from Denver after the arrival of the Denver Zephyr. Returning, the Exposition Flyer will leave San Francisco at 9 p. m. and Denver at 4:10 p. m. the second day after connecting with the Denver Zephyr for Chicago, and arrive in Chicago at 12:30 p. m. the third afternoon, thus giving 19⅛-hr. service from Denver to Chicago.

At the same time, the schedule of the "Aristocrat," operating between Denver

Continued on next left-hand page

LIMA POWER AT WORK

Lima 4-8-4 type locomotive on the famous Southern Pacific "Daylight"

Steam Power for the Trains of Tomorrow

The past few years have seen remarkable advances in steam locomotive design making for greater efficiency and economy. » » » Steam power for the trains of tomorrow is ready to meet the demands of the traveling public and the shipper. » » » Steam power will give all the speed the curves and roadbed can use—with hauling capacity to meet the requirements of modern business, combined with safety, flexibility, comfort, low first cost and low operating cost.

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and Chicago will be shortened 4 hr. or to 19⅓-hr. It will leave Denver at 8 p. m. instead of 7:30 p. m. and Omaha at 7:08 a. m. instead of 8:10 a. m. and will arrive in Chicago at 4:20 p. m. instead of 7:50 p. m. The time from Omaha to Chicago will be 10 hr. 12 min. Under the new set-up, the westbound Aristocrat will carry that name only west of Omaha. Train No. 11 will operate out of Chicago, doing local business to Ottumwa, Iowa, where it will be consolidated with the Exposition Flyer. At Omaha the cars of No. 11 will become the Aristocrat.

Commissioners Discuss All-Commodity Rates

All-commodity rates or all-freight rates, devised by the railroads to meet motor truck competition for merchandise traffic and used principally by forwarders, were discussed by three Interstate Commerce Commissioners in separate opinions brought forth by the Commission's decision of this week condemning certain of such rates as set up in three different sections of the country. The rates condemned are the flat charges per loaded car regardless of the aggregate weight of the contents, published by the Central of New Jersey, Lehigh Valley, Reading and Pennsylvania for application between Jersey City, N. J., and certain points in Pennsylvania and between Newark, N. J., and Philadelphia, Pa.; those published by the Boston & Maine for application between points in Massachusetts, Maine, New Hampshire and New York; and those published by the Illinois Central, St. Louis-San Francisco, Chicago & Eastern Illinois, Wabash and Alton for application between Chicago and St. Louis, Mo., and Birmingham, Ala.

The separate expressions came from Commissioners Porter (concurring), Eastman (dissenting in part) and Mahaffie (dissenting). Commissioner Miller agreed with Mr. Mahaffie, while Commissioners Aitchison and Alldredge did not participate in the disposition of the proceeding. Mr. Porter doubted that the majority had discharged its full duty either to the railroads or to the general public merely by ordering the rates canceled; and he proceeded to outline a plan whereby in his opinion the rail rates on merchandise traffic might be adapted to present-day conditions. The plan would contemplate the elimination of carload minimum weights on merchandise traffic and the establishment instead of a minimum carload charge which should be "The lowest charge the railroads can reasonably afford to make for moving a car of freight." With this minimum charge thus fixed, each article loaded into the car would then be charged its individual carload or any quantity rate on its actual weight, subject to a discount in certain circumstances. The latter would be an incentive for loading above a weight which would produce the minimum charge. Mr. Porter holds no brief for the foregoing or any other plan; but he thinks it deserves study, and hopes it will "stimulate thought and inquiry by the railroads into the general problem," which they must solve or "Their future as merchandise carriers is in my opinion hopeless."

Commissioner Eastman though the important thing was to determine the limitations under which the all-commodity rate should be used to improve merchandise freight service through the use of the forwarding method. The railroads, he said, allowed the leadership in this connection to be taken by the forwarders, but he thinks they can recover it "by wise action," and "improve and perfect the methods which others have inaugurated." The suggestions of Commissioner Porter, in Mr. Eastman's opinion, go to the problem of establishing rates intermediate between L. C. L. and carload, rather than to the problem of handling package freight; and he believes that the former can best be solved by the establishment of rates on interchangeable containers.

Commissioner Mahaffie, who would have affirmed the findings of prior reports that the schedules had been justified, asserted that the majority left the carriers "without a guide as to what may be published in lieu of the schedules ordered canceled." Thus, in his opinion, the report justifies the conclusion "that the purpose is to strike down these all-commodity rates and to frown upon that principle of rate making." He concedes that the all commodity rates may not be a perfect solution, but he found evidence of record that they are satisfactory to shippers receiving the benefits and profitable to the carriers publishing them. He does not think that the Commission should invade the province of management to prevent experiments which may not be in line with old customs, but which are not shown to be in violation of the law. "Perhaps, after all," he added, "we are not omniscient." At another point Mr. Mahaffie pointed out how highway carriers are permitted to so restrict their tariffs that the less desirable freight is left to the railroads, which must receive and carry all classes. "It thus appears," he says, "that one standard is being applied to railroad common carriers and another, and less rigid standard, to their highway competitors.

Ditch Dole Cut To $83,000,000

(*Continued from page 918*)

more and more as the question is being considered." "The railroads and the railroad brotherhoods went to war," he added. "The railroads tried to cut the men 15 per cent, but the American people opposed that cut. Now, the railroads and the brotherhoods have ganged up together to create a monopoly on transportation in America. That is the question that the members of this House will have to face shortly."

Previously Representative Warren, Democrat of North Carolina, had expressed fears that the waterway program would be "imperiled by a bill now pending in the House before the committee on interstate and foreign commerce which seeks to give relief to the railroads." He went on to ask if Chairman Mansfield of the committee on rivers and harbors agreed with him that regulation of water carriers by the Interstate Commerce Commission "will mean that the cheap water rates we now have will be brought up to a parity with the rail rates of the country and, therefore, all of these millions that have been expended will prove to have been spent in vain." Mr. Mansfield did agree, recalling that the committee on merchant marine two years ago refused to report a bill calling for I. C. C. regulation of water transportation. He hopes the bill referred to by Mr. Warren "will receive the same fate."

After the applause, Chairman Lea of the committee on interstate and foreign commerce arose to assure Mr. Mansfield that the interstate commerce committee "will not report a bill that provides for any unjust discrimination against water carriers." What the committee hopes to do, Chairman Lea added, "is to preserve the economic advantages of each of those methods of transportation which are fair and the best interests of the country demand that those economic advantages should be preserved." Then Mr. Rankin suggested that Mr. Lea would not propose to put inland waterways under the I. C. C. "The committee," Mr. Lea replied, "will probably report in favor of unified control, but it will not report a bill that provides for any unjust discrimination between different carriers."

Equipment and Supplies

LOCOMOTIVES

THE PERE MARQUETTE has ordered one 600-hp. Diesel-electric switching locomotive from the Electro-Motive Corporation, La Grange, Ill.

THE GREAT NORTHERN has ordered 14 Diesel-electric switching locomotives each of 1000-hp. from the Electro-Motive Corporation, La Grange, Ill.

THE CHICAGO, BURLINGTON & QUINCY has ordered five 600-hp. Diesel-electric switching locomotives from the Electro-Motive Corporation, La Grange, Ill.

FREIGHT CARS

THE FERROCARRIL AL PACIFICO has ordered 50 box cars of about 30 tons' capacity from the Magor Car Corporation. Ramon Alfaro is purchasing agent, San Jose, Costa Rica, Central America.

THE DENVER & RIO GRANDE WESTERN has been authorized by the federal district court to purchase 400 box cars, 100 automobile box cars, 50 gondola cars and 100 underframes, from the Pressed Steel Car Company. The order was reported in the *Railway Age* of May 6, as subject to the approval of the court.

MACHINERY AND TOOLS

CHESAPEAKE & OHIO.—Bids were received on May 25 for two revolving type traveling cranes for handling ore at Newport News, Va., to cost about $328,000.

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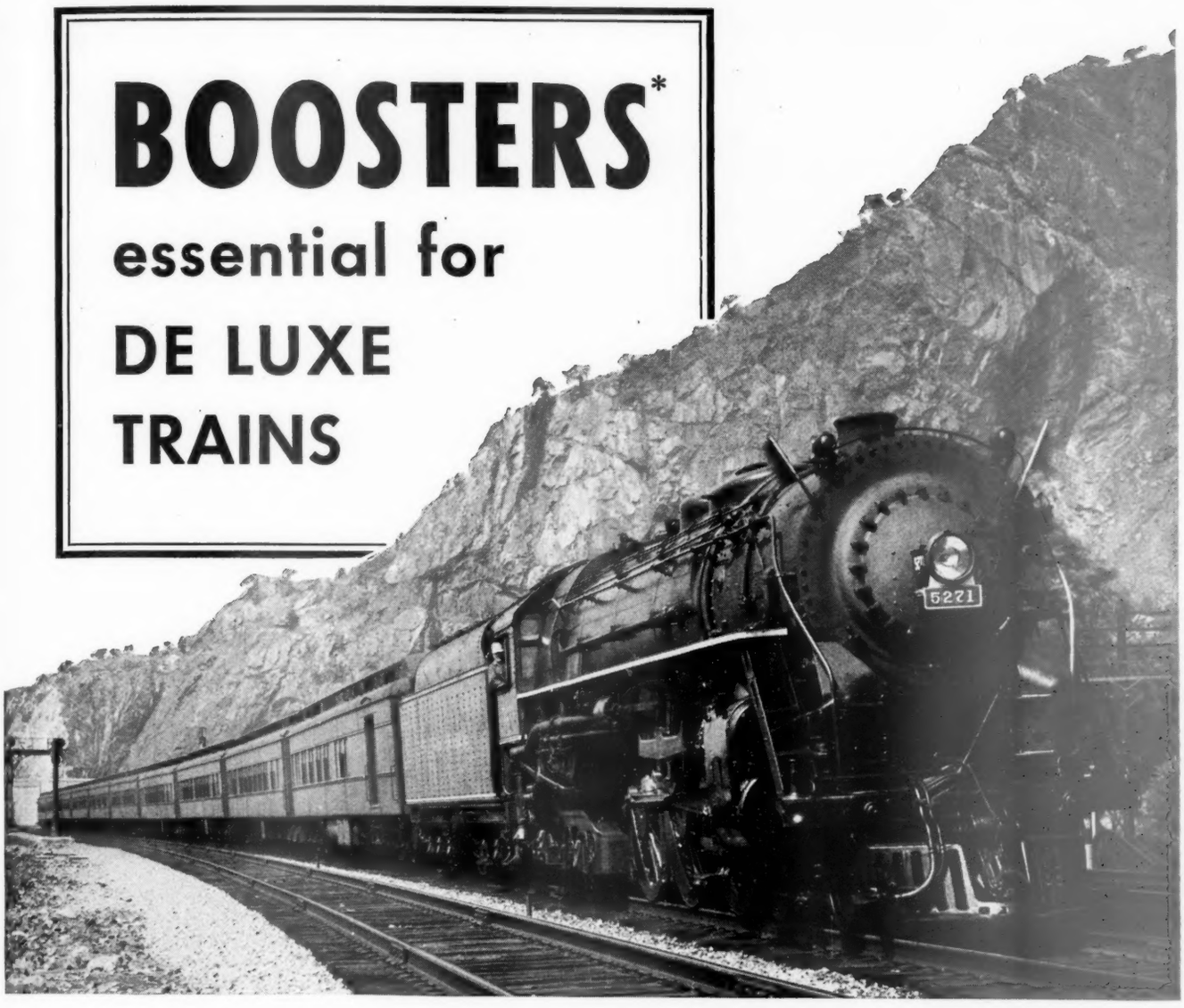
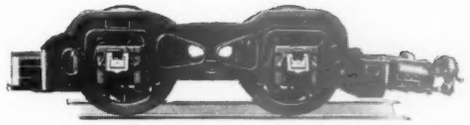
BOOSTERS* essential for DE LUXE TRAINS



Railroad operating men are becoming increasingly conscious of the necessity of catering to the comfort of passengers. » » » There must be some impelling reason why so many de luxe trains are hauled by Booster-equipped locomotives. Perhaps it is the desire of the management to meet the insistent demand of passengers for comfort and their sensibility about starting shocks when they select de luxe trains to insure a pleasant journey from start to finish.



*Trade Mark Registered United States Patent Office

Franklin parts fit—in applying them there is no labor cost for fitting. They are built to original dimensions of carefully selected materials—they avoid road failures and excessive maintenance.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Construction

CHESAPEAKE & OHIO.—A contract has been given to Haley, Chisholm & Morris, Inc., Charlottesville, Va., to extend passing sidings at Maidens, Columbia, Warren and Warminster, Va., to cost about $65,916. Plans are being prepared to ask for bids on the construction of a brick residence for nurses at the hospital, Clifton Forge, Va., to cost about $110,000. Company forces will construct a trench and backfill with rock for embankment protection at Limeville, Ky., to cost about $50,250.

ILLINOIS CENTRAL.—The Division of Highways of the State of Illinois has awarded two contracts for the construction of a highway underpass under one track of this road about one and one-half miles southeast of Eldena, Ill. A contract amounting to $20,489 was awarded A. P. Munsen, Marion, Iowa, for the construction work and the contract for the fabrication and delivery of the steel, amounting to $4,246, was awarded to Hansell-Elcock Company, Chicago. The bridge will be a single track through plate girder span with concrete slab deck on reinforced concrete abutments.

NEW YORK CENTRAL.—Contracts have been let for work in New York City as follows: To John Meehan & Son for the removal of tracks, repaving and other work on 12th avenue, between West 32nd and West 37th streets; to the Duffy Construction Corporation for alterations and additions to passenger station at 138th street and Grand Concourse; to the Thomas Crimmins Contracting Company for grading, drainage, viaduct foundations and other work on 11th avenue, between West 32nd and West 35th streets; and to the Anchor Post Fence Company, for installation of highway and park fences in Riverside Park between West 91st street and St. Clair Place.

NEW YORK, NEW HAVEN & HARTFORD.—A contract has been given to C. W. Blakeslee & Sons, Inc., New Haven, Conn., for the construction of concrete abutments and repairs to superstructure, Bridge 14.48 at Stonington, Conn., to cost about $65,000. See *Railway Age* of January 14, page 132. Bids were received on May 24, for new west abutment and for repairs and additions to east abutment at Mystic, Conn., to cost about $36,000, and to replace the pile trestle with three-span reinforced concrete ballasted deck at Guilford, Conn., to cost $68,000.

UNION PACIFIC.—A general contract has been awarded to the J. W. Bailey Construction Company of Seattle, Wash., for the construction of a warehouse in Seattle to cost $105,000, which will house offices, display and stock rooms of the Westinghouse Electric Supply Company and a branch office of the Westinghouse Electric & Manufacturing Company. The new building will be two stories in height, of reinforced concrete construction with white cement stucco finish. The office will have acoustical treatment and the equipment of the building will include a hydraulic lift and modern electrical conveniences.

Supply Trade

Gordon F. Hess, assistant manager of sales of the Alloy Steel division of the **Republic Steel Corporation,** Massillon, Ohio, has been appointed sales manager of the Houston, Tex., district effective June 1.

Edwin J. Schwanhausser, works manager at the Buffalo, N. Y., plant of the **Worthington Pump & Machinery Corporation,** Harrison, N. J., has been elected a vice-president. Mr. Schwanhausser as vice-president and works manager will continue in his present responsibilities.

C. B. Robinson, general manager of the **J. B. Ford Sales Company,** Wyandotte, Mich., who has been connected with this company for 22 years has been elected president and **W. F. Torrey,** who has been connected with the company for six years, has been elected secretary-treasurer; both will serve on the board of directors.

H. M. Starrett, treasurer of **Fairmont Railway Motors, Inc.,** with headquarters at Fairmont, Minn., has been elected president to succeed **Harold E. Wade,** whose death on May 10 was announced in the *Railway Age* of May 20. The former duties of Mr. Wade will be divided between Mr. Starrett and **W. F. Kasper,** vice-president at Fairmont, Minn.

R. S. Wharton, general sales manager of the **Quaker City Rubber Company,** Philadelphia, Pa., has been promoted to vice-president in charge of sales to succeed **F. C. Millhoff,** who has retired. Mr. Wharton's headquarters are at Philadelphia. **G. C. Johnson,** manager of the Chicago branch, has been promoted to general sales manager, with headquarters at Philadelphia, and **H. C. Heine,** has been promoted to manager of the Chicago branch, with **E. Asbridge** as assistant.

OBITUARY

E. H. Bell, president of the Track Supply Company, Chicago, and fo merly president of the Railroad Supply Company, died at Sheridan, Ill., on May 19 of a complication of ailments.

William Clifford Stevens, since 1930 vice-president in charge of engineering, secretary and director of Cutler-Hammer, Inc., Milwaukee, Wis., died on May 15, at the age of 55 years.

Earl L. Colopy, sales representative in the eastern region of the Transportation Department of Johns-Manville Sales Corporation, New York, died at Jersey City Medical Center, Jersey City, N. J., on May 17, after a brief illness. Mr. Colopy was born at Lockport, N. Y., November 22, 1887, and entered the service of Johns-Manville in 1908 as a stenographer and since 1918, had served as a sales representative.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Preferred Dividend.*—Directors of this company have voted a $2.50 dividend on the 5 per cent non-cumulative preferred stock, payable August 1. The last disbursement was $1 in February.

ATCHISON, TOPEKA & SANTA FE.—*Acquisition and Abandonment.*—The Gulf, Colorado & Santa Fe and the Ft. Worth & Rio Grande have asked the Interstate Commerce Commission for a certificate of public convenience and necessity authorizing the former to acquire from the latter terminal facilities at Brady, Tex. and all lands between Brady and East Brady Crossing, now owned by the Ft. Worth & Rio Grande. Both companies are subsidiaries of the Atchison, Topeka & Santa Fe, and the Gulf company proposes to acquire the property of the Rio Grande by crediting the Rio Grande with $110,918 in open account. At the same time the Gulf company has asked the commission for authority to abandon the operation and the Rio Grande has requested permission to abandon the line from East Brady Crossing, Tex., to Brady, 2.7 miles.

ATLANTIC COAST LINE.—*Bonds.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to procure the authentication and delivery of $1,314,000 of general unified mortgage 50-year, series A, 4½ per cent gold bonds to reimburse the treasury for expenditures made in retiring a like amount of first mortgage five per cent bonds of the Norfolk & Carolina. The interest on the bonds will be payable semi-annually, and they will mature June 1, 1964.

BOSTON & MAINE.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a branch line extending from Elmwood, N. H., to Coolridge Crossing, two miles.

CHICAGO & NORTH WESTERN.—*New Trustee Selected.*—On May 22 Federal Judge John P. Barnes appointed Charles M. Thompson, who is at present trustee of the Chicago & Eastern Illinois, as trustee of the Chicago & North Western to succeed Charles P. Megan, who resigned on May 11. Judge Barnes asked Mr. Thompson not to tender his resignation as trustee of the C. & E. I. until he has been qualified to take the North Western position. His appointment is subject to the approval of the Interstate Commerce Commission.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Abandonment.*—This company has been authorized by the Interstate Commerce Commission to abandon a branch line extending from Wauzeka, Wis., to La Farge, 52 miles.

CENTRAL R. R. OF NEW JERSEY.—*Annual Report.*—The 1938 annual report of this company shows net loss, after interest and other charges, of $4,264,825, an increase

Continued on next left-hand page

NO. 90 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

ERZURUM BRIDGE

TURKEY

This typical masonry bridge, situated on the new Sivas-Erzurum route in Eastern Turkey, was built by the Turkish public works department for the State Railways, and is part of the huge post-war development instituted by the late Kemal Ataturk. Built of local stone throughout, it is designed to carry a single track over its seven 33 ft. arches. The height in the center, from the rail level to the bed of the river beneath, is approximately 50 ft. » » » 29 years ago, the Security Sectional Arch was introduced. Since then, there have been improvements, but the basic design remains the same, and is today the standard on American railroads.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

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of $2,182,439 over net loss for 1937. Selected items from the income account follow:

	1938	Increase or Decrease Compared with 1937
Railway Operating Revenues	$29,251,619	-$3,326,095
Maintenance of way	1,866,022	-649,461
Maintenance of equipment	5,042,061	-905,479
Transportation*	13,029,479	-469,628
Total Operating Expenses	21,720,015	-2,207,560
Net Revenue from Operations	7,531,603	-1,118,534
Railway tax accruals	5,382,035	+757,510
Hire of equipment	1,862,946	+49,019
Joint facility rents	27,478	-36,442
Net Railway Operating Income	259,143	-1,888,621
Total non-operating income	919,150	-51,503
Gross Income	1,178,293	-1,940,124
Rent for leased roads	2,389,152	-734
Interest on funded debt	2,455,700	-18,000
Total Deductions from Gross Income	5,443,119	+242,314
Net Loss	$4,264,825	+$2,182,439

* Rail, Lighterage and Ferries included.

Chicago, Rock Island & Pacific.—*Trustees' Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to issue $4,500,000 of trustees' certificates, to be sold or otherwise disposed of at par and accrued interest, and the proceeds used to pay a like principal amount of outstanding certificates due June 1, 1939. The certificates will bear interest at the rate of three per cent and will mature June 1, 1941.

Colorado & Southern.—*Annual Report.*—The 1938 annual report of this company shows net deficit, after interest and other charges, of $981,054, as compared with net income of $544,219 in 1937. Selected items from the consolidated income account follow:

	1938	Increase or Decrease Compared with 1937
Railway Operating Revenues	$13,650,057	-$2,211,343
Maintenance of way	1,405,997	-161,240
Maintenance of equipment	2,406,963	-276,781
Transportation	5,137,064	-419,402
Total Operating Expenses	10,093,633	-912,114
Net Revenue from Operations	3,556,424	-1,299,229
Railway tax accruals	1,446,523	+211,964
Railway operating income	2,109,901	-1,511,192
Hire of equipment—Net Dr.	564,701	+61,574
Joint facility rents—Net Dr.	283,519	-29,149
Net Railway Operating Income	1,261,680	-1,543,617
Other income	143,590	-12,403
Total Income	1,405,271	-1,556,020
Rent for leased roads	18,317	+17,722
Interest on funded debt	2,301,941	-42,029
Total Fixed Charges	2,369,815	-25,358
Net Deficit	$981,054	+$1,525,405

Illinois Central.—*R. F. C. Loan Extension Approved.*—Division 4 of the Interstate Commerce Commission has conditionally approved an extension of the time of payment, for terms of not more than five years, of $35,170,000 of the loans to this company from the Reconstruction Finance Corporation, maturing in the aggregate amount of $17,427,000 on May 31, 1939, and $17,748,000 on June 1, 1939. At the same time Division 4 found that the company was not in need of financial reorganization.

Jacksonville Terminal.—*Bonds.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to issue $400,000 of refunding and extension mortgage bonds, series C, to be sold at 100.75 and accrued interest, and the proceeds used to retire a like amount of outstanding first mortgage five per cent bonds, due July 1, 1939, and for other lawful purposes. The bonds will be dated January 1, 1939, will bear interest at the rate of 4½ per cent per annum, and will mature July 1, 1967. At the same time authority was granted to the Southern, the Seaboard Air Line, the Florida East Coast, and the Atlantic Coast Line to assume liability jointly and severally, as guarantors, for the bonds.

Lehigh Valley.—*Purchase of Hopper Cars.*—This company has asked the Interstate Commerce Commission for authority to execute a contract of conditional sale with the Bethlehem Steel Company for the purchase of 500 all-steel self-clearing hopper cars. At the same time the company asked the commission to dismiss the application on the ground that it lacked jurisdiction over such a transaction. The application explained that the company did not feel the transaction came within the purview of section 20 (a) of the Interstate Commerce Act, but to be on the safe side, it had filed the application and would pursue it if the commission decides it has jurisdiction.

Minneapolis & St. Louis.—*Abandonment.*—This company would be authorized to abandon a branch line extending northwesterly from a main-line connection at Newburg, Iowa, through Laurel, to Van Cleve, 16.1 miles, if the Interstate Commerce Commission adopts a recommended order of its Examiner J. S. Prichard.

Missouri Pacific.—*Intervention Granted.*—The Kansas City Southern and the Texarkana & Fort Smith have been granted authority to intervene in this company's reorganization case.

Missouri Southern.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Himont, Mo., to Brushy, five miles.

Northeast Oklahoma.—*Bonds and Stock.*—This company has requested permission from the Interstate Commerce Commission to issue $600,000 of bonds and $300,000 of capital stock.

Nashville, Chattanooga & St. Louis.—*Annual Report.*—The 1938 annual report of this road shows net income, after interest and other charges, of $142,295 as compared with a net deficit of $471,623 in 1937. Selected items from the income statement follow:

	1938	Increase or Decrease Compared with 1937
Average Mileage Operated	1,115.51	-3.17
Railway Operating Revenues	$13,659,541	-$639,892
Maintenance of way	1,446,420	-354,401
Maintenance of equipment	2,552,382	-929,127
Transportation	5,494,881	-237,506
Total Operating Expenses	10,947,876	-1,562,295
Operating ratio	80.15	-7.34
Net Revenue from Operations	2,711,665	+922,404
Railway tax accruals	921,859	+44,701
Railway operating income	1,789,805	+877,703
Equipment rents—Dr.	484,874	+224,293
Joint facility rents	177,004	-11,764
Net Railway Operating Income	1,481,935	+641,646
Other income	214,769	-28,687
Gross Income	1,696,704	+612,958
Rent for leased roads	805,076	-1,055
Interest on funded debt	689,850	-1,057
Total Deductions from Gross Income	1,554,409	-960
Net Income	$142,295	+$613,918

Okolona, Houston & Calhoun City.—*Abandonment.*—This company would be authorized to abandon its entire line extending from Okolona, Miss., to Calhoun City, 37.3 miles, if the Interstate Commerce Commission adopts the recommendation of Examiner R. Romero.

Pittsburgh & West Virginia.—*R. F. C. Guaranty.*—The Interstate Commerce Commission, Division 4, has dismissed, upon the application of this company, its request that the Reconstruction Finance Corporation guarantee a proposed issue of $7,095,000 of secured notes.

Susquehanna River & Western.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its entire line extending from an interchange connection with the main line of the Pennsylvania at Duncannon, Pa., northwesterly to New Bloomfield, 11.2 miles.

Western Maryland.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon part of a branch line extending from Narrows Park, Md., to Midland, 13.3 miles.

Average Prices of Stocks and Bonds

	May 23	Last week	Last year
Average price of 20 representative railway stocks..	27.85	26.99	22.36
Average price of 20 representative railway bonds..	57.33	57.49	56.90

Dividends Declared

Atchison, Topeka & Santa Fe.—Preferred, $2.50, payable August 1 to holders of record June 23. This road paid $1 on preferred on February 1 last.

Boston & Albany.—$2.50, payable June 30 to holders of record May 31.

Delaware & Bound Brook.—$2.00, quarter, payable May 20 to holders of record May 16.

Elmira & Williamsport.—$1.60, semi-annually, payable July 1 to holders of record June 20.

Erie & Pittsburgh.—87½¢, quarterly, payable June 10 to holders of record May 31.

Reading.—Second Preferred, 50¢, quarterly, payable July 13 to holders of record June 22.

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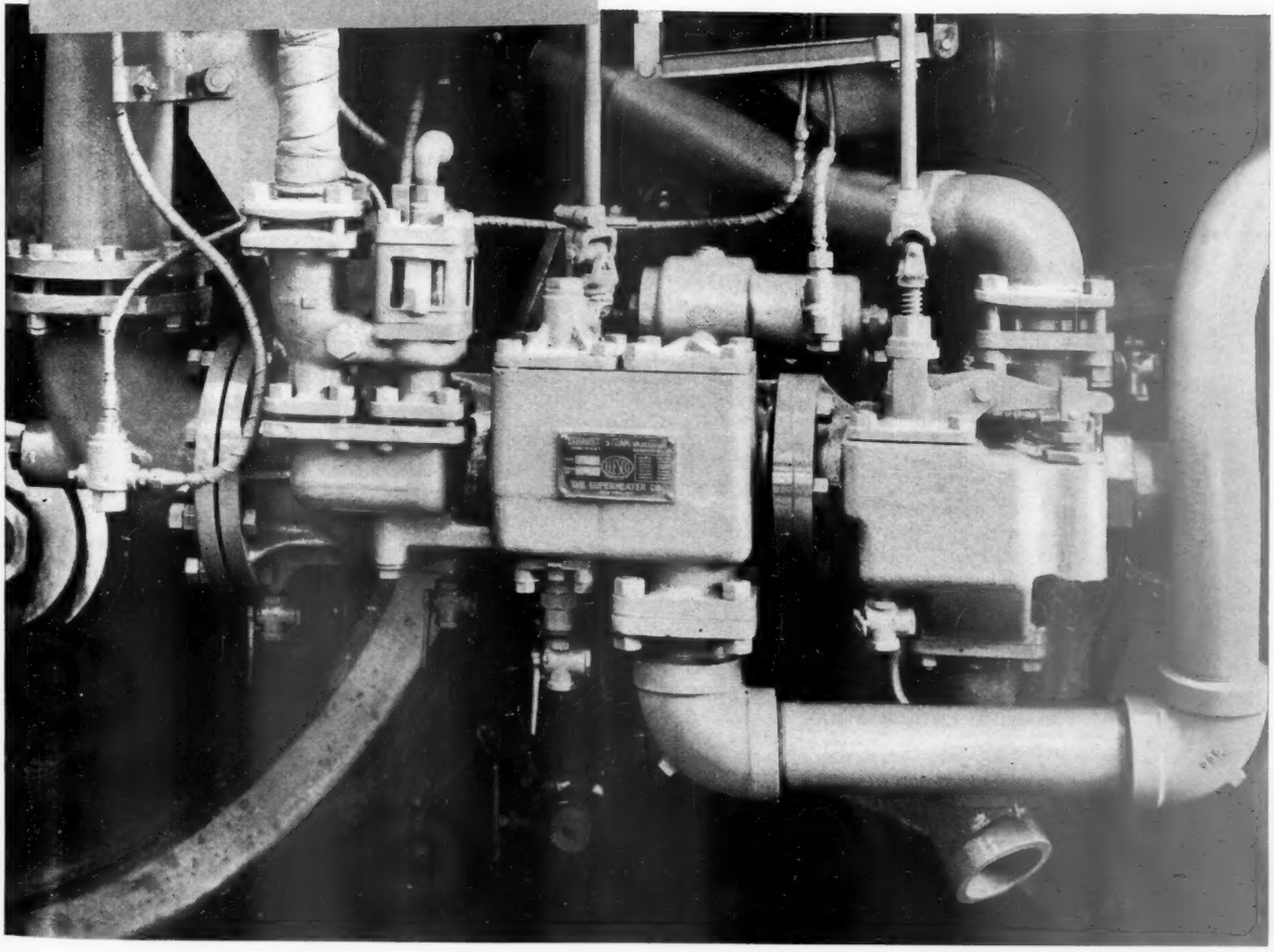
Locomotives equipped with Elesco exhaust steam injectors go greater distances with the same fuel and water consumption—resulting in better schedules.



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Railway Officers

EXECUTIVE

Harvey C. Couch, chairman of the Kansas City Southern, was elected also president of the road on May 22, succeeding **Charles E. Johnston,** who resigned on January 1, 1939, to become president of the Western Association of Railway Executives.

Fred G. Gurley, assistant vice-president of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been elected a vice-president of the Atchison, Topeka & Santa Fe, with headquarters in Chicago. In his new position Mr. Gurley

Underwood & Underwood

Fred G. Gurley

will act as general executive assistant to E. J. Engel, formerly executive vice-president and now president of the Santa Fe.

Mr. Gurley was born at Sedalia, Mo., on February 20, 1889, and attended an engineering school for one year following graduation from high school. He entered railway service as a clerk in the superintendent's office of the Burlington at Sheridan, Wyo., in July, 1906. In 1915, he was promoted to trainmaster and served in this capacity at various points for about four years, then being assigned to special work on the staff of the general manager and vice-president. In 1920, he was advanced to division superintendent and after five years in this position he was further promoted to general superintendent. On May 1, 1932, he was appointed assistant to the operating vice-president, his title being changed to assistant to the executive vice-president on April 1, 1935. He was appointed assistant vice-president (operation) of the Burlington on May 1, 1936, and has held that position until his recent election as vice-president on the Santa Fe. Mr. Gurley has been a member of the executive committee of the Kansas City Terminal Railway Company, the North Kansas City Bridge and Railroad Company, the North Kansas City Development Company, the Association of Western Railroads and the General Managers' Association of Chicago. He has also been a witness in a number of important rate cases before the Interstate Commerce Commission.

OPERATING

E. L. Hoffman, trainmaster of the St. Louis division of the Pennsylvania, with headquarters at Terre Haute, Ind., has been transferred to the Columbus division, with headquarters at Columbus, Ohio, succeeding **P. W. Neff,** whose promotion to superintendent of the Monongahela division was announced in the *Railway Age* of May 6. **J. H. Ball,** assistant trainmaster of the Columbus division, with headquarters at Columbus, Ohio, has been promoted to trainmaster of the St. Louis division, replacing Mr. Hoffman and **H. L. Lodge,** assistant trainmaster on the Cleveland division, with headquarters at Cleveland, Ohio, has been transferred to Columbus, relieving Mr. Ball.

John C. Albright, whose promotion to superintendent on the Union Pacific, with headquarters at Spokane, Wash., was announced in the *Railway Age* of May 6, was born at Duluth, Minn., on July 22, 1891, and entered railway service on November 1, 1906, as an office boy in the freight department of the Union Pacific at Portland, Ore. He later served successively in various clerical positions and on June 1, 1928, was promoted to assistant superintendent of the First division, with headquarters at Portland. One year later, Mr. Albright was appointed assistant to the general manager at that point and on October 16, 1937, he was reappointed assistant superintendent at Portland, the position he held at the time of his recent promotion.

Harry E. Arnold, a former locomotive engineer on the Chicago, Milwaukee, St. Paul & Pacific, and more recently assistant to the vice-president of the Brotherhood of Locomotive Engineers and Firemen, with headquarters at Chicago, has been appointed assistant to the general manager on the Milwaukee, Lines West, in charge of schedule and labor matters, with headquarters at Seattle, Wash., replacing **William C. Ennis,** who will retire on June 1.

Mr. Ennis was born at McGregor, Iowa on August 2, 1870, and entered railway service as a trainman on the Milwaukee, Lines East. From 1891 to 1894, he served on the Northern Pacific in train service, returning to the Milwaukee in the latter year. In 1895, he was promoted to conductor and in 1907 he was transferred to Lines West. Two years later he was advanced to passenger train conductor and in 1910 he was placed in charge of construction trains and snow service. Mr. Ennis was promoted to trainmaster at Mobridge, S. D., in 1913, and in 1917, he was advanced to assistant superintendent, with headquarters at Three Forks, Mont. The following year he was promoted to superintendent, with headquarters at Miles City, Mont. During the period of federal control of the railroads he was appointed general superintendent of Spruce Production Division Road No. 1. In 1920, he was appointed assistant superintendent on the Milwaukee electrification work between Othello, Wash., and Seattle, and upon completion of this work was appointed assistant to the general manager at Seattle, holding that position until his retirement.

TRAFFIC

J. C. Beaumont, general agent, freight department, on the Union Pacific at Omaha, Neb., has been promoted to assistant general freight agent at that point, replacing **Kenneth G. Carlson,** whose promotion to general freight agent, with headquarters at Denver, Colo., was announced in the *Railway Age* of May 20. **P. F. Echele,** chief clerk in the traffic department at Omaha, has been advanced to general agent, freight department, at that point relieving Mr. Beaumont.

Fred W. Johnson, whose promotion to general passenger agent of the Chicago, Burlington & Quincy, with headquarters at Denver, Colo., was announced in the *Railway Age* of March 20, was born at

Fred W. Johnson

Newton, Iowa, and attended the Barnes Business College, Omaha, Neb. He entered railway service on October 30, 1903, as a stenographer in the passenger traffic department of the Burlington at Omaha, and a year later was promoted to assistant rate clerk. He subsequently served as stenographer to the general passenger agent, secretary to the general passenger agent and rate clerk. On May 5, 1911, he was promoted to chief clerk in the passenger traffic department at Denver, Colo., and on February 16, 1922, he was advanced to city passenger agent at that point. Mr. Johnson was promoted to assistant general agent, passenger department, on November 1, 1928, and four years later he was advanced to general agent, passenger department at Denver, the position he held at the time of his recent promotion.

William T. Price, whose promotion to assistant traffic manager of the Union Pacific, with headquarters at Denver, Colo., was announced in the *Railway Age* of May 20, was born at Astoria, Ill., on August 12, 1883, and entered railway service on March 1, 1904, as a traveling adjuster in the freight claim department of

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RODS

COMBINING STRENGTH AND LIGHTWEIGHT • • AND OF SUPERIOR WORKMANSHIP

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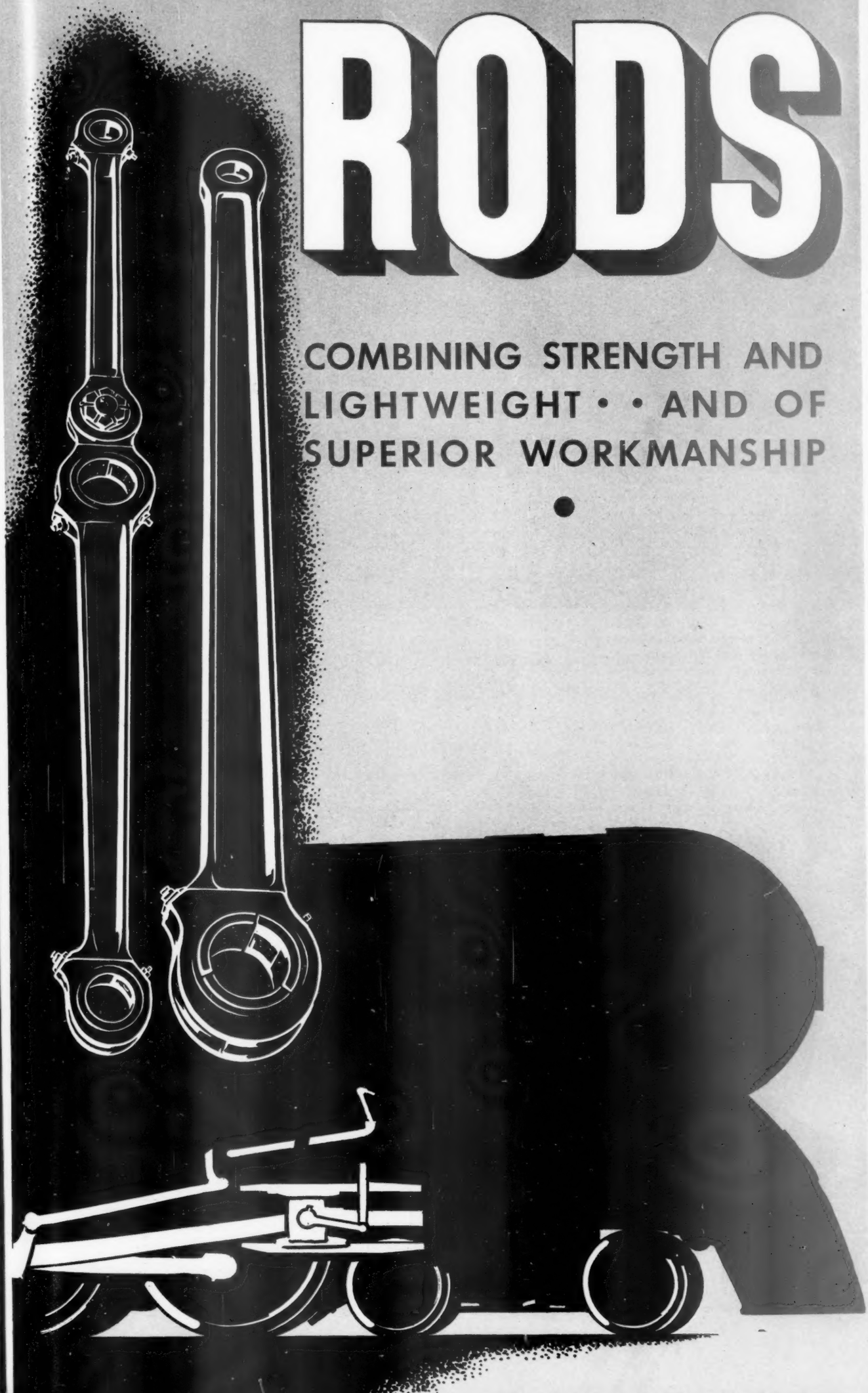

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the Union Pacific at Omaha, Neb. He later served as contracting freight agent at Denver and commercial agent at Pueblo, Colo. During the war Mr. Price served

William T. Price

as a captain in the United States Army at Washington, D. C., and at Ft. Sam Houston, then returning to the Union Pacific as general agent at Kansas City, Mo. On January 1, 1925, he was appointed assistant general freight agent at Denver, and on April 15, 1933, his title was changed to assistant general freight and passenger agent. On January 1, 1936, Mr. Price was promoted to general freight and passenger agent at Denver, the position he held at the time of his recent promotion.

C. J. Rohwitz, whose promotion to assistant freight traffic manager on the Chicago, Burlington & Quincy, with headquarters at Omaha, Neb., was announced in the *Railway Age* of May 20, was born at Downs, Kan., on November 2, 1874, and entered railway service on March 5, 1898, as a check clerk on the Chicago, Burlington & Quincy at Atchison, Kan. He subsequently served at this point as yard clerk, bill clerk, general freight house foreman, contracting freight agent and city passenger agent. In August, 1903, he was transferred to Kansas City, Mo.,

C. J. Rohwitz

as joint city ticket agent of the Burlington and the Missouri-Kansas-Texas, and two years later was promoted to traveling passenger agent on the Burlington, with headquarters at St. Louis, Mo. He was promoted to chief clerk in the general passenger office at St. Louis on June 1, 1911, and served in this capacity until March 15, 1920, when he was promoted to general agent, with headquarters at Dallas, Tex. Mr. Rohwitz was promoted to general passenger agent, with headquarters at St. Louis on April 1, 1923, and on January 1, 1926, he was transferred to Omaha. On April 1, 1933, his title was changed to general freight and passenger agent, with the same headquarters, the position he held until his recent promotion.

W. M. Carey, assistant freight traffic manager of the Denver & Rio Grande Western, with headquarters at Denver, Colo., has been promoted to freight traffic manager, with the same headquarters, a change of title.

Albert P. Hickcox, whose appointment as freight claim agent of the Pennsylvania at Philadelphia, Pa., was noted in the *Railway Age* of May 6, was born on August 14, 1880, at California, Mo. He attended the public schools in that city and the State Normal School at Warrensburg, Mo. Mr. Hickcox entered the service of the Pennsylvania on October 15, 1901, in the local freight office at Fort Wayne, Ind. After holding various clerical positions in that office he was transferred to the office of the division superintendent at Fort Wayne on May 5, 1904, as assistant timekeeper. On April 26, 1905, he was transferred to the office of the general freight agent of the Vandalia railroad, St. Louis, Mo., as claim clerk. On November 1, 1907, he was appointed assistant chief claim clerk, and five years later became chief claim clerk, which position he held until January, 1917, when the Vandalia railroad was consolidated with the Pittsburgh, Cincinnati, Chicago & St. Louis, at which time he was transferred to the office of the freight claim agent of the Pennsylvania Lines West of Pittsburgh, at Pittsburgh, Pa., as chief claim clerk. Mr. Hickcox held that position until the termination of federal control of railroads on March 1, 1920, when he was appointed freight claim agent of the Pennsylvania system, with headquarters at St. Louis, Mo. On April 1, 1925, upon the consolidation of the freight claim forces,

Albert P. Hickcox

Mr. Hickcox was appointed district freight claim agent, with headquarters at New York City and was promoted to assistant freight claim agent at Philadelphia on October 1, 1925, the position he held until his recent appointment as freight claim agent.

Thomas P. Hinchcliff, whose promotion to general passenger agent on the Chicago, Burlington & Quincy, with headquarters at Omaha, Neb., was announced in the *Railway Age* of March 20, was born at Amboy, Ill., on April 8, 1882, and entered railway service on January 1, 1899, as a clerk in the superintendent's office of the Colorado & Southern in Denver, Colo. On September 1, 1903, he was promoted to city freight agent at St. Louis, Mo., and on May 1, 1904, he was appointed traveling freight agent, with headquarters at Chicago. On July 1, 1910, he was appointed city freight agent for the Burlington, at Cleveland, Ohio, and two months later he was transferred to Detroit, Mich. Mr. Hinchcliff was promoted to chief clerk to the assistant general freight agent at Chicago on March 1, 1915, and three years later he was advanced to general agent at Detroit. Two months later he was appointed chief clerk in the regional director's office at Chicago, and on March 1, 1920, he was reappointed general agent at Detroit. On January 1, 1925, he was promoted to assistant general passenger agent at Chicago and on January 1, 1926, to general passenger agent at St. Louis. Mr. Hinchcliff was transferred to Omaha as assistant general passenger agent on April 1, 1933, the position he held at the time of his recent promotion.

Thomas P. Hinchcliff

Otto Kopp, assistant general freight agent on the Northern Pacific at St. Paul, Minn., has been transferred to Duluth, Minn., succeeding to a portion of the duties of the late **N. D. Harding,** assistant general freight and passenger agent at that point, and **A. A. Anderson,** city passenger and ticket agent at Duluth, has been promoted to general agent, passenger department, with the same headquarters, a newly created position. **A. P. Mootz,** traveling freight agent at St. Paul, has been advanced to assistant general freight agent at that point, relieving Mr. Kopp.

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ENGINEERING AND SIGNALING

P. M. Stutrud, office engineer of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., has been promoted to assistant chief engineer, with same headquarters, a newly created position.

T. M. Pajari, office engineer on the Chicago, Milwaukee, St. Paul & Pacific at Seattle, Wash., has been promoted to division engineer, with headquarters at Terre Haute, Ind., succeeding **W. Lakoski,** who has been transferred to the Iowa and Dakota division, with headquarters at Mason City, Iowa, relieving **C. H. Tusler,** who has been assigned to other duties.

G. A. Haggander, whose promotion to assistant chief engineer of lines East of the Missouri river of the Chicago, Burlington & Quincy, with headquarters at Chicago, was announced in the *Railway Age* of May 20, was born at Sioux City, Iowa, on January 30, 1885, and graduated from the Armour Institute of Technology,

G. A. Haggander

Chicago. He entered railway service in 1905 as a draftsman in the office of the bridge engineer of the Burlington, later serving as a concrete inspector and a designer. On June 10, 1910, he was promoted to office engineer and two years later he was advanced to assistant bridge engineer of the lines East of the Missouri river, with headquarters at Chicago. Mr. Haggander was promoted to bridge engineer of the Burlington system in 1916, with headquarters as before at Chicago, and in December, 1938, his jurisdiction was extended to include the Colorado & Southern and Ft. Worth & Denver City.

Richard W. Willis, whose promotion to principal assistant engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, was announced in the *Railway Age* of May 20, was born at Charlestown, W. Va., on July 27, 1874, and graduated from Virginia Military Institute in 1895. He entered railway service on April 18, 1896, as a rodman on the Lake Shore & Michigan Southern (now a part of the New York Central), resigning the following year to engage in real estate business. He reentered railway service on April 8, 1898, as a rodman on the Burlington and on August 1, 1902, he went with the Cincinnati Northern (now part of the New York Central) as assistant to chief engineer. Mr. Willis returned to the Burl-

Richard W. Willis

ington in April, 1903, as an assistant engineer on construction work, and on January 1, 1905, he was promoted to division engineer at Galesburg. Two years later he was advanced to district engineer, with headquarters at St. Louis, Mo., and on February 1, 1914, he was transferred to Chicago. He was later appointed division engineer of the Galesburg and Beardstown divisions, with headquarters at Galesburg, and in the summer of 1936 he was promoted to assistant engineer, with headquarters at Chicago, the position he held at the time of his recent promotion.

Frank H. Cramer, whose promotion to bridge engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, was announced in the *Railway Age* of May 20, was born in Chicago on July 24, 1883, and attended the Chicago School of Engineering for two years and the Lewis Institute for five years. He entered railway service in January, 1904, as a draftsman on the Burlington in Chicago. In June, 1907, he was promoted to inspector and

Frank H. Cramer

in May, 1912, to designer. He later served as acting chief designer and in April, 1913, he was advanced to office engineer. Mr. Cramer was promoted to assistant bridge engineer in April, 1919, holding that position until his recent promotion.

MECHANICAL

Edward E. Root, master mechanic of the Morris and Essex division of the Delaware, Lackawanna & Western, with headquarters at Hoboken, N. J., has been promoted to assistant chief of motive power, with headquarters at Scranton, Pa., effective June 1. **Frederick T. H. James,** general foreman of the Kingsland locomotive shops, at Kingsland, N. J., has been promoted to master mechanic at Hoboken, succeeding Mr. Root. **Joseph B. Carroll,** foreman of the electrical shop at Kingsland, has been promoted to general foreman of the Kingsland locomotive shop, succeeding Mr. James.

PURCHASES AND STORES

Earl G. Roberts, whose promotion to general storekeeper of the Chicago, Rock Island & Pacific, with headquarters at Silvis, Ill., was announced in the *Railway Age* of May 6, was born at Prince-

Earl G. Roberts

ton, Mo., on June 19, 1889, and entered railway service in March, 1907, as a station helper on the Illinois division of the Rock Island. During the next few years he served successively as a telegraph operator on the Illinois division, a clerk at Shawnee, Okla., a storekeeper at Blue Island, Ill., a telegraph operator on the Illinois division, and a clerk at Silvis. In June, 1911, he left the service of the Rock Island to enter business, but returned to his former position in February, 1913. In May, 1913, he was promoted to storekeeper at Trenton, Mo., and a year later he was transferred to Valley Junction, Iowa. Mr. Roberts was appointed chief clerk to the general storekeeper at Silvis in April, 1931, and in January, 1938, he was appointed traveling storekeeper, with the same headquarters, the position he held at the time of his recent promotion.

SPECIAL

Dr. J. M. Emmett, assistant chief surgeon, Chesapeake & Ohio, has been appointed chief surgeon, with headquarters at Richmond, Va., succeeding **Dr. W. T. Oppenhimer,** who has been appointed advisory chief surgeon.